EXAMINING INNOVATIVE POSTAL PRODUCTS FOR THE 21ST CENTURY

HEARING

BEFORE THE

SUBCOMMITTEE ON FEDERAL WORKFORCE, US POSTAL SERVICE AND THE CENSUS

OF THE

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

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CONTENTS

EXAMINING INNOVATIVE POSTAL PRODUCTS FOR THE 21ST CENTURY

Wednesday, May 22, 2014,

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON FEDERAL WORKFORCE,
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:00 a.m. in room 2154, Rayburn House Office Building, the Honorable Blake Farenthold [chairman of the subcommittee], presiding.

Present: Representatives Farenthold, Lynch, Norton, Clay, Neugebauer, and Issa.

Staff Present: Molly Boyl, Majority Deputy General Counsel and Parliamentarian; Adam P. Fromm, Majority Director of Member Services and Committee Operations; Mark D. Marin, Majority Deputy Staff Director for Oversight; Jeffrey Post; Majority Senior Professional Staff Member; Sarah Vance, Majority Assistant Clerk; Peter Warren, Majority Legislative Policy Director; Kevin Corbin, Minority Professional Staff Member; Julia Krieger, Minority New Media Press Secretary; Juan McCullum, Minority Clerk; and Mark Stephenson, Minority Director of Legislation.

Mr. FARENTHOLD. Good morning. The committee will come to order.

As is traditional within the Oversight Committee, I would like to start by reading our mission statement.

The Oversight Committee exists to secure two fundamental principles. First, Americans have the right to know that the money Washington takes from them is well spent. Second, Americans deserve an efficient and effective government that works for them.

Our duty on the Oversight and Government Reform Committee is to protect these rights. Our solemn responsibility is to hold government accountable to taxpayers because taxpayers have a right to know what they are getting from the government.

Our job is to work tirelessly in partnership with citizen watchdogs to deliver the facts to the American people and bring genuine reform to the Federal bureaucracy. This is the mission of the Oversight and Government Reform Committee.

At this point, I would like to recognize myself for an opening statement.

Today, we examine recent efforts by a number of private sector companies and startups to develop innovative postal products. While the Internet has been a boon for the national and local economies, it has been a mixed blessing for the Postal Service.

First class mail volume is down more than 33 percent from its peak in 2001 and continues to drop. Our package volume is growing rapidly thanks to e-commerce. Americans are rapidly changing how they communicate with one another and the Postal Service has struggled to adapt. However, that does not mean we are living in a post-U.S. Postal Service world.

The Postal Service still has a vital role in our economy in our Nation affordably connecting even the most remote parts of the country. That is why innovation in the Postal Service is so important. We need an infrastructure in this country for moving matter, not just bits of data.

The Postal Service and private sector companies have begun efforts to create new innovative postal products to preserve existing mail volume and create new demand for mail and possibly streamline the way mail is handled.

Every aspect of the current operations of the Postal Service is targeted and includes innovations in design, online purchasing, e-commerce and greater consumer targeting for advertising.

Today, I am looking forward to hearing from private sector companies and discussing with them their efforts to develop new postal products and services. Specifically, what problems, if any, have they encountered along the way in working with the Postal Service to develop and implement these innovative products.

Now, if ever, is the time for the Postal Service to embrace innovations presented by private sector companies. Private sector companies are more than willing to spend billions of dollars to implement new products and designs that can help bring future revenue to the Postal Service.

The tech community often uses the word disruptive. Disruptive is not necessarily a bad thing. It is a change. When my wife was in her Junior League days, she used to refer to that is the way we have always done it. We have to be very wary of falling into the trap of that is the way we have always done it.

If companies continue to be shut down or steam-rolled by the Postal Service bureaucratic red tape before they have a chance to get off the ground, future innovators will look elsewhere to present their fresh ideas.

In addition, I hope to hear success stories from private sector companies that work with the Postal Service and how future and how future entrepreneurs and innovators can create more marketable and open environments in the Postal Service. There is need for innovation, whether it is clusterboxes for secure package delivery or better access to postal databases like changes of address, there are many areas ripe for innovation.

My fear is as a government watchdog and taxpayer, without reform and innovative new postal products, the American people are going to be left footing the bill for a taxpayer bale out of the Postal Service. That is the last thing we need right now.

I look forward to hearing from our panel and believe there really are smart ways the Postal Service can lower its costs and improve its service through innovation and private partnerships. I hope we can bring them to light today and find a way to move the Postal Service closer to Internet speed.

Mr. FARENTHOLD. Before I recognize Mr. Lynch for his opening statement, I ask unanimous consent that our colleague from Texas, Mr. Neugebauer, be allowed to participate in the hearing. Without objection, so ordered.

Mr. Lynch, your opening statement, please, sir.

Mr. LYNCH. Thank you very much, Mr. Chairman.

I want to thank you, first of all, for holding this hearing to examine the development of innovative postal products and services by the United States Postal Service. I would also like to thank our panel of witnesses, some very innovative individuals, for helping us with this work.

In November 2013, the Postal Service entered into a strategic partnership with online retailer, Amazon.com to test Sunday package delivery in select markets, otherwise known as seven day delivery. The Amazon pilot program has proven widely successful and is the primary reason why the Postal Service has recently demonstrated the ability to grow revenue in the face of its most difficult financial position.

In its quarterly financial report released on May 9, 2014, the agency reported a revenue increase of $379 million over the same reporting period last year, its third straight quarter of revenue growth due in large part to $252 million or eight percent increase in shipping and package revenue.

In light of these results, Sunday package service has now expanded to several other cities across the country and the agency is working to establish similar partnerships with other companies. This serves to illustrate that the agency can experience positive financial results when it capitalizes and builds upon what it already does best, utilizing an unparalleled and universal mail network that is driven by a hard working, dedicated workforce to deliver the mail now seven days a week.

It is an example of innovation rather than degradation of existing postal products and services. We would be well served to take a similar approach as we continue to undertake the critical task of reforming today's Postal Service.

As evidenced by the markup yesterday in the full committee, Chairman Issa continues to put forth a variety of misguided proposals that presume we can enhance the financial viability of the Postal Service by degrading the very services that have come to define the agency in the eyes of the American people.

I simply do not agree that we can reform the Postal Service for the better by eliminating the current six day mail delivery, by mandating a wholesale conversion of door delivery addresses to curbside, clusterbox or sidewalk delivery or by asking postal customers to pay a so called legacy fee in order to retain their door delivery service.

Such proposals would only place the Postal Service at a greater business disadvantage and severely damage its long term viability.

Instead, we can encourage the Postal Service to build upon its existing postal products and services in order to further set itself apart in the mailing industry. I commend Ranking Member Cummings for his strong and continued leadership in this area and I am proud to co-sponsor his legislation, H.R. 2690, the Innovate Delivery Act.

This thoughtful and alternative approach to postal reform would establish a chief innovation officer within the Postal Service to lead the development of innovative postal products and services that fall in line with emerging information technology and changing market trends.

It would also require the chief innovation officer to ensure that such products maximize revenue for the Postal Service. Postal innovation will be a key and necessary component to meaningful postal reform package and mail delivery. I understand there are a variety of perspectives on how best to facilitate that innovation in a matter that will place the Postal Service on more solid financial footing.

Accordingly, I very much look forward to discussing the issues with our witnesses. I look forward to your input.

I yield back the balance of my time.

Mr. FARENTHOLD. Thank you, Mr. Lynch.

Members will have seven days to submit opening statements for the record. We will now recognize our panel.

Mr. James P. Cochrane is the Chief Information Officer and Executive Vice President of the United States Postal Service. Mr. David C. Williams is the Inspector General for the United States Postal Service. Mr. Will Davis is Chief Executive Officer of Outbox, Inc. Mr. Seth Weisberg is Chief Legal Officer of Stamps.com. Mr. Patrick Eidenmiller is Director of Engineering and Technology at M-pack Systems. Mr. Todd Everett is Chief Operating Officer of Newgistics, Inc.

Pursuant to committee rules, all witnesses will be sworn before they testify. Please rise and raise your right hand.

Do you solemnly swear or affirm that the testimony you are about to give will be the truth, the whole truth, and nothing but the truth?

[Witnesses respond in the affirmative.]

Mr. FARENTHOLD. It is my understanding the House will have votes around 10:40 and it will be a rather long series of votes. I want to get everything covered. If we can get it done by 10:40, you all do not have to sit around here for over a hour while we go vote and I might be able to make an earlier flight back to Texas.

It would be a win-win if you abided by the timer that gives you five minutes for your testimony. We will then ask questions. Your entire written statement is placed in the record and available for this committee and others to review.

Mr. Cochrane, you are recognized for five minutes.

WITNESS STATEMENTS

STATEMENT OF JAMES P. COCHRANE

Mr. COCHRANE. Good morning, Chairman Farenthold, Ranking Member Lynch and members of the subcommittee.

Thank you for calling this hearing on examining innovative postal products for the 21st century.

My name is Jim Cochrane and I serve as Chief Information Officer and Executive Vice President of the United States Postal Service. I oversee the integration of technology innovation in all aspects of our business.

During my 39 years with the Postal Service, I have developed a broad perspective on the business, how we serve the marketplace and our customers. This business acumen is essential as technology now plays a foundational role in virtually every postal product and service.

Emerging technologies, while exciting, oftentimes also challenge us with their potentially disruptive effects. Effectively traversing this emerging disruptive continuum is my responsibility and a matter of survival for the Postal Service.

The Postal Service operates one of the largest technology infrastructures in the world. It is supported and co-developed by some of the most respected technology companies, as well as many small businesses that bring fresh insights.

Our goals are simple. Every day we focus on how we can innovate with technology and new partnerships to generate revenue, reduce expenses, deliver consistent and reliable service, and a world class customer experience.

Though our goals are simple, our business model is both complex and diverse. For nearly 40 years the Postal Service workshare programs have shared the responsibility for efficiency and innovation with business partners. This collaborative model is guided by the premise that our profits and brand are in hand when our partners are profitable and our joint customers receive an increased value proposition.

Printers, software vendors, mail service providers, transportation companies and parcel integrators, all play a vital role and together, we have built an industry around the market needs.

Disruption in the highly competitive package market is an excellent example of how customer's demand evolved and we adapted. Driven by e-commerce and in particular, free shipping, there has been a dramatic shift to more ground-based solutions.

Parcel select is an innovative product developed to answer that market demand. It is a workshare program that leverages the world class processing and transportation network of consolidators such as Newgistics with the unmatched reach of our delivery network providing a great customer solution.

Parcel select also enabled the concept of coopetition where UPS and FedEx are traditional competitors, provide network logistics and the Postal Service provides the last mile service, creating a win-win for shippers and consumers.

The package market is continuing to change. The new norm involves same day delivery, Sunday delivery, parcel lockers, delivery customization and constant real time tracking. Consumers are demanding these new services without an increase in costs, requiring that we adapt or face irrelevance.

The Postal Service is helping businesses make mail more valuable, engaging and interactive through intelligent mail barcodes and financial incentives for mobile optimized mail for creating both the digital reflection for hard copy and a digital action for response.

We are building new digital products that will leverage our brand of privacy, security and trust. We welcome creative ideas from individuals, companies and entrepreneurs regarding new business concepts and technologies.

Our unsolicited proposal program provides the public a venue to submit new technologies and ideas to advance the mailing industry. In order to be adopted, these ideas must align with the Postal Service mission, have a clear path to profitability and generate postal revenue. They must not damage our respected brand or conflict with existing products or services.

The Postal Service receives ideas from a variety of sources. Some of these ideas are not new concepts, some are already being pursued internally and some cannot be adopted because of restrictive laws.

The role of the Postal Service in American life and business is changing at a rapid pace. More than ever, systems are using a wide range of technologies to communicate, transact business and shop. Ever changing technology presents the Postal Service with opportunities. But our success is dependent in part on how fast we can evolve. We remain guided by our charter to bind the Nation together and our commitment to provide the value and service upon which American businesses and consumers depend.

The Postal Service continues to make great strides in adapting to the changing mailing and shipping needs of the country. However, our efforts are severely limited by an outdated, legally restrictive business model. We have the responsibility to provide and fund universal service for our Nation but we do not have sufficient authority or flexibility to efficiently carry out that mandate.

We therefore absolutely need comprehensive postal reform legislation to return us to financial viability. Such legislation should provide us with clear authority to offer new products and services that allow us to take full advantage of our current infrastructure and competencies.

Further, we urge Congress not to make the Postal Service task even more difficult by placing further restriction on our ability to innovate and compete. The Postal Service competes vigorously but we also compete fairly consistent with our legal obligations.

Mr. Chairman, we look forward to continuing to work with you and the subcommittee to accomplish meaningful postal reform legislation and continue to deliver innovation to the American public.

I would be pleased to answer any questions you might have. Thank you.

[Prepared statement of Mr. Cochrane follows:]

UNITED STATES POSTAL SERVICE

STATEMENT OF
CHIEF INFORMATION OFFICER AND EXECUTIVE VICE PRESIDENT
JAMES P. COCHRANE
BEFORE THE
SUBCOMMITTEE ON FEDERAL WORKFORCE,
U.S. POSTAL SERVICE AND THE CENSUS
UNITED STATES HOUSE OF REPRESENTATIVES

MAY 22, 2014

Good morning, Chairman Farenthold, Ranking Member Lynch, and members of the Subcommittee. Thank you, Chairman Farenthold for calling this hearing on Examining Innovative Postal Products for the 21st Century. My name is James P. Cochrane, and I serve as Chief Information Officer (CIO) and Executive Vice President of the United States Postal Service. I am pleased to discuss this matter, as it is very important to the Postal Service, and one that resonates with me personally. I oversee the integration of technology innovation in all aspects of our business. I direct the advancement of new mail intelligence and the analytics it enables, engineering systems, information technology systems, payment technology, and corporate information security to meet the rapidly changing needs of today's marketplace.

During my 39 years with the Postal Service, I have developed a broad perspective on the business, how we serve the marketplace, and our customers. This business acumen is essential as technology now plays a foundational role in virtually every postal product and service. Emerging technologies, while exciting, also often challenge us with their potentially disruptive effect. Effectively traversing this emerging continuum is my responsibility and a matter of survival for the Postal Service.

The Postal Service operates one of the largest technology infrastructures in the world. It is supported and co-developed by some of the most respected technology companies, as well as many small businesses that bring fresh insights.

Our goals are simple. Every day we focus on how we can innovate with technology and explore new partnerships to generate revenue, reduce expenses, deliver consistent reliable service, and provide a world-class customer experience.

Though our goals are simple, our business model is both complex and diverse. The role of the Postal Service in American life and business is changing. More than ever, citizens are using a wide range of technologies to communicate, transact business and shop. The changing landscape of technology presents the Postal Service with both opportunities and challenges—it must evolve to support the needs of the nation and remain relevant. To meet this challenge, our organization is undergoing transformation in both cost cutting and revenue growth. We are seizing opportunities for revenue growth by developing new products and services, embracing technology, and highlighting the strength and relevance of the Postal Service now and in the future.

To capture ideas internally, we have developed an innovation pipeline process that examines how we could expand or simplify services at induction points, capitalize on e-commerce and enhance route productivity, enhance our physical network, and leverage our brand to provide digitally enabled tools *[Figure 1]*. We are currently working on new offerings developed through this process with plans to bring some to market this summer.

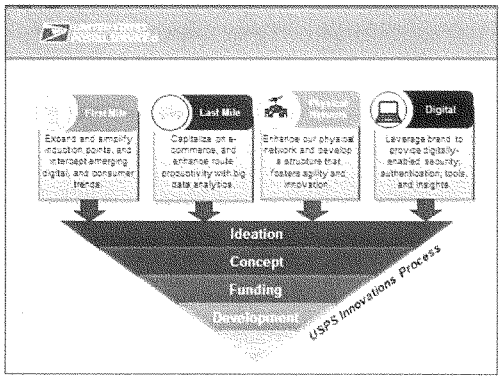

Figure 1

WORKING WITH TECHNOLOGY INNOVATORS

The Postal Service is committed to evolving our products and services to meet the needs of our customers, whether consumers, small businesses or large commercial mailers. Innovation is a collaborative effort. We work closely with our customers to meet their needs, address issues and problems, and develop solutions that work best for them and the Postal Service. Working together, we can remove roadblocks and develop mutually beneficial solutions that often spark growth in certain sectors of the mailing industry.

On the local level, Postal Customer Councils bring postal representatives together with customers, particularly small businesses, in towns and cities across the country. On the national level, the Mailers' Technical Advisory Committee meets quarterly to discuss product and service enhancements and innovations. The group includes Postal Service executives and managers as well as representatives from all major mailing groups, from package shippers to Periodicals mailers. In addition, the Postal Service regularly meets with representatives of mailing associations. All of these customers are knowledgeable about Postal Service capabilities and provide essential input as we work to develop new products.

Several innovations have resulted from this consultative process, including Intelligent Mail barcodes, cubic pricing, and a mailing promotions calendar that encourages mailers to integrate hardcopy mail with digital technology such as QR codes or augmented reality. Our goal is to provide customers with choices and solutions that can contribute to their business success through using the mail.

Through the Postal Service's workshare programs, we have shared the responsibility for efficiency and innovation with business partners. This collaborative model is guided by the premise that our profits and brand are enhanced when our partners are profitable and our joint customers receive an increased value proposition. Printers, software

vendors, mail service providers, transportation companies and parcel integrators all play a vital role, and together we have built an industry around market needs *[Figure 2]*.

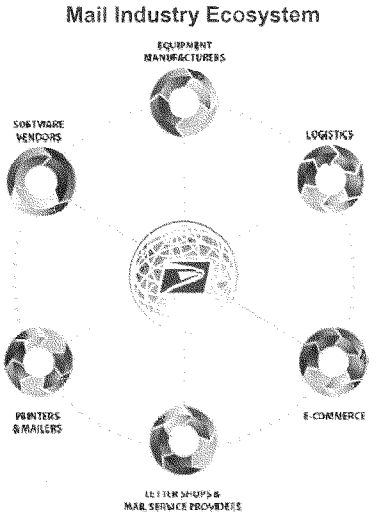

Figure 2

At times, the Postal Service also seeks to develop key strategic relationships to gain insight into emerging technologies that can enhance existing products or lead to development of new products and services. Whether the ideas are unsolicited or sought, the evaluation criteria remain the same. We focus on adopting ideas, concepts, products, services and technologies that align with our business model and help us meet the needs of a changing marketplace.

We welcome creative ideas from individuals, companies, and entrepreneurs regarding new business concepts and technologies. Our Unsolicited Proposal Program (UPP) provides the public a venue to submit new technologies or ideas to advance the mailing industry. Postal Service Publication 131, *The Postal Service Unsolicited Proposal Program*, defines the types of information we will review and specifies how to present the information. The publication can be found online at

http://www.usps.com/innovations. In order to be adopted, these ideas must align with the Postal Service's mission, have a clear path to profitability and generate postal revenue. And they must not damage our respected brand or conflict with existing products or services. The Postal Service receives many submissions of ideas, some of which are not new to us or that we are prevented by law from pursuing.

Innovation in the Package Business

The Postal Service sees the greatest potential for growth in packages and we have worked hard to increase our presence in the package business. Disruption in the highly competitive package market is an excellent example of how customer demands evolve and we adapt. Driven by e-commerce—and in particular, free shipping—there has been a dramatic shift to more ground-based solutions.

Parcel Select is the innovative product the Postal Service developed to answer this market demand. It is a workshare program that leverages the world-class processing and transportation networks of consolidators, such as Newgistics, with the unmatched reach of our delivery network, providing a great customer solution. Parcel Select also enables the concept of coopetition, where United Parcel Service (UPS) and FedEx provide network logistics, and the Postal Service provides the last mile service, creating a win-win for shippers and consumers.

Priority Mail provided another opportunity for the Postal Service to gain market share in the lucrative shipping industry. Through innovative solutions, such as the Priority Mail Flat Rate Box—supported by our national "If It Fits, It Ships" marketing campaign—we grew our package business substantially among consumers and small businesses. The introduction of the Priority Mail Flat Rate Box and our ability to offer customized solutions also helped solidify the Postal Service's relationship with hundreds of thousands of small business owners that make up the eBay marketplace.

To further capture package growth, we designed and launched a new Priority Mail product line last year, offering our customers a simpler and smarter way to ship and track their packages. Changes to the Priority Mail portfolio include features, such as improved USPS Tracking, day-specific delivery, and free insurance coverage against loss, damage or missing content, ranging from $50 to $100. The Postal Service is simplifying our expedited product line, adding value and remaining competitive in the shipping marketplace to capitalize on the e-commerce boom and grow our package business.

Last year, we launched a strategic partnership with Amazon to test Sunday package delivery in select markets. This value-added service, which utilizes dynamic routing technology, was implemented in time for the 2013 holiday mailing and shipping season. Since launched, millions of packages have been delivered on Sundays to Amazon customers. With an expansion announced earlier this month, the Postal Service now delivers packages on Sundays for Amazon in 15 cities—with plans to continue to roll out to a large portion of the U.S. population this year. Due to overwhelming interest, we are currently exploring similar partnerships with other companies.

We also currently have a market test underway in New York City for Metro Post, an innovative premium delivery service product designed to improve the e-commerce experience for customers shopping online by offering same-day delivery service for certain purchases.

The package market is dynamic and continues to offer the Postal Service opportunities to respond with innovative solutions. The new norm includes expectations that the Postal Service has embraced and strategically launched to enhance our package product offerings—same day delivery, Sunday delivery, parcel lockers, delivery customization, and constant real-time tracking. Consumers are demanding these new services without an increase in cost, requiring that we again adapt or face irrelevance.

Innovation in the Mail Business

Through Intelligent Mail barcodes and financial incentives for mobile optimized mail, we are creating both a digital reflection for hard copy and a digital action for response. We are building new digital products that will leverage our brand attributes of privacy, security and trust. Recently, we gave postage discounts to businesses that use digital technology in their marketing campaigns. For example, businesses received a two percent discount on postage for commercial Standard Mail and First-Class Mail letters and flats that included a mobile barcode that could be read or scanned by a mobile device. More than 620 million mail pieces were part of this promotion in just two weeks.

We also helped businesses integrate mobile coupons and click-to-call technology into their direct mail. When consumers scan these codes with a mobile device, they are taken to a coupon or deal on their phone, or are connected to the business through a phone call. The Postal Service also offered our Second Ounce Free service, which allows businesses to insert promotional pieces in their bills and correspondence at no extra charge.

The Postal Service is working with small businesses to enhance the value of advertising mail by making it easier and more convenient for them to use. We are providing them with simpler tools and products, such as Every Door Direct Mail (EDDM), a Standard Mail product with simplified addressing and acceptance requirements. EDDM eliminates barriers that previously stood in the way of local retailers and businesses incorporating mail as an integral part of their marketing strategy by allowing them to reach current and potential customers effectively and affordably.

We enhanced several features of the service last year, including an online mapping tool that helps businesses select the neighborhoods, cities and ZIP Codes they wish to target. Users can pay for their mailing online or at a Post Office. Since we launched EDDM in 2011, it has become one of our most popular products and generated more than $1 billion in revenue. EDDM is especially popular among retailers and merchants

who use it to place coupons, menus and promotional calendars into the hands of potential customers.

Developing Digital Solutions

The Postal Service is bringing the strengths of our physical network, IT infrastructure and foundation for privacy and security to the digital world. The Postal Service's digital efforts will also leverage the expertise of the Postal Inspection Service, one of the nation's oldest federal law enforcement agencies. Our goal is to ensure that customers can conduct secure digital communications and online business transactions.

One of our first initiatives is a joint effort with the White House, National Institute of Standards and Technology (NIST), General Services Administration (GSA) and other Federal agencies. The Federal Cloud Credential Exchange (FCCX) is part of the Federal Government's vision of making its online transactions safer, faster and more private. It is a solution that will make it easy for individuals to use their credentials from an approved external service to access Federal websites. The Postal Service is responsible for implementing the technical solution, launching the program, and evaluating its success.

In addition, we continue to explore and research the market opportunity for innovative solutions that can link hardcopy mail to the digital world. Taking into account the experience of foreign posts and several start-up companies, whose efforts in providing digital mail have proved financially unsuccessful, the Postal Service believes consumer demand for this type of service is not sufficient at this time to launch an enterprise-wide digital mail product.

Usps Financial Condition and Need for Legislative Reform

No discussion about the Postal Service is complete without acknowledging our dire financial condition and the urgent need for legislative reform. The Postal Service last

testified before the Subcommittee in March at a hearing on the Postal Service's unfunded liabilities. We emphasized our Fiscal Year (FY) 2013 net loss of $5 billion and liabilities of $61 billion. On May 9, 2014, we released our FY 2014 Quarter 2 financial results, which reported our 2014 year-to-date net loss at $2.2 billion.

Our financial woes continued despite implementing a number of cost-cutting efforts that are within our ability to adopt. These actions have included reducing our career employee complement by more than 200,000, without resorting to layoffs, and consolidating nearly 24,000 delivery routes, despite adding nearly seven million new delivery points. We have also consolidated 350 mail processing plants—reducing our processing footprint by one-third—consolidated more than 2,400 Post Offices and adjusted staffing and hours at more than 8,700 Post Offices to two, four, or six hours per day. Because of these combined actions, we have captured $15 billion in annual expense reductions over the last seven years.

Despite the Postal Service implementing these strategies, the combination of onerous mandates in existing law and continued First-Class Mail volume declines threatens the organization's financial viability. There exists no scenario where the Postal Service returns to financial stability without enactment of postal reform legislation. Initiatives undertaken by postal management will not, by themselves, be sufficient to ensure both immediate and long-term financial stability. Congressional action is necessary.

The legislative requirements put forward by the Postal Service, as outlined in our 2013 *Five-Year Business Plan*, include:

- Require within the Federal Employees Health Benefit (FEHB) Program, a set of specific health care plans that would fully integrate with Medicare and virtually eliminate the retiree health benefits (RHB) unfunded liability.
- Refund FERS overpayment and adjust future FERS payment amount using postal-specific demographic and salary growth assumptions.
- Adjust delivery frequency (six-day packages/five-day mail).

- Streamline governance model and eliminate duplicative oversight.
- Provide authority to expand products and services.
- Require defined contribution retirement system for future postal employees.
- Require arbitrators to consider the financial condition of the Postal Service.
- Reform Workers' Compensation.
- Allow the Postal Service the right to appeal EEOC class action decisions to Federal Court.

As outlined above, one of our legislative requirements refers to the authority to expand products and services. The Postal Service must be allowed the authority to establish new revenue sources and respond to customers' changing needs for postal products and services. Such changes are vital to our ability to grow revenue, leverage our strengths, and innovate.

The Postal Service continues to make great strides in adapting to the nation's changing mailing and shipping needs. Innovative new products and services are the cornerstone of those changes. However, our efforts are severely limited by a statutorily-mandated, restrictive business model. We have the responsibility to provide and fund universal service for the nation, but we do not have sufficient authority or flexibility to efficiently carry out that mandate. The Postal Service has exhausted its borrowing authority, faces massive unnecessary unfunded liabilities, and is constrained in how far it can go to bridge the massive gap between revenues and expenses. Postal reform legislation is urgently needed.

As Congress continues its work on comprehensive postal reform legislation, our hope is that such legislation would not place further restrictions on our ability to innovate and compete. The business environment the Postal Service operates within requires us to compete vigorously, however we also compete fairly, consistent with legal mandates requiring fair competition. Among those mandates is a provision that governs how we compete with entities over which we also exercise regulatory authority. For instance, we regulate the provision of PC Postage to ensure that we are paid for the postage

indicia that is being produced. Current law requires that we conduct such regulatory activities in a manner that ensures fair competition, while still allowing us to compete with PC Postage vendors through products such as Click-N-Ship. Such competition is good for the consumer and should be encouraged.

Mr. Chairman, we look forward to continuing to work with you and the rest of the Subcommittee to accomplish meaningful postal reform legislation and to continue to deliver innovation to the American public.

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Mr. FARENTHOLD. Thank you.
Mr. Williams.

STATEMENT OF DAVID C. WILLIAMS

Mr. WILLIAMS. Mr. Chairman, Mr. Lynch and members of the subcommittee, the postal industry has a long history of working with the private sector and others to spur innovation.

Historically, mail transport fueled the fledgling railroad and airline industries. Postal applications also stimulated advances in handwriting recognition technologies. They acted as a platform for the private sector innovators in the electronic postage, presorting and mail order industries; and the Postal Service imposed the overlay of the Zip Code across the country to the benefit of businesses and researchers.

Innovation is even more important in todays age of digital globalism of today. The ungovernable Internet has changed the world, but great opportunities and enhanced capabilities exist alongside awkward new systems and unfamiliar risks. Lastly, the forces of creative destruction have ravaged traditional communications and logistics systems.

In this environment, the job of an infrastructure like the Postal Service is to support citizens and businesses as they try to compete and position themselves, while it also takes care to assure that efficient market forces prevail and are not undermined.

To continue in this role, understanding the changing world and rapid adaptation are increasingly critical endeavors. The Postal Service faces the tricky challenge of modernizing traditional products as it provides support services for emerging technologies. Success will largely depend on its ability to innovate and embrace the innovations of others.

As a result, the continual strengthening of the Postal Service's processes for innovation will be needed that include: seeking to understand the frustrations and supporting emerging needs of people and commerce; developing a comprehensive innovation strategy; clarifying the entry point for innovators and providing staff to join innovators in navigating the huge postal structure and remain with them until the proposal is resolved; strengthening its skills in assessing the financial viability of proposals; developing the ability to engage in rapid proto-typing of new products and operational innovations; and protecting its intellectual property and respecting that of others.

When pursuing innovation, partnerships with the private sector and the government are important in bringing in new ideas and specialized competencies, for sharing risks and for leveraging the costs of research and development investments.

There are several areas where innovation opportunities seem particularly rich. One is support for e-commerce, e-health and e-government transactions, at the front end by providing a portal for identity verification for individuals and e-businesses and providing access to digital currency exchange instruments and at the back end, by assisting with packaging and shipment of parcels.

Second is using micro-warehousing, virtual post office boxes and e-platform services to help small businesses and innovators with logistics and shipping solutions.

Third is providing seamless physical and digital access to Postal Service network for the public and commerce by linking together its website, post offices and digitally-enabled carriers.

Fourth is conducting digital analysis of the vast data now generated throughout the network for operational efficiencies, new revenue ideas and business intelligence.

Together, these opportunities can tighten the integration of data streams and their supporting matter streams.

The Internet, smart devices, search engines and cloud storage have laid the foundations for a changing world. An aspect of what will come next, atop this foundation, will likely be an ecosphere that continues to be ungovernable and chaotic with endless challenges, learning curves, and substantial creative destruction.

The ability of society to propel rather than retard progress in these areas will depend in part on the competency of the postal infrastructure to support American commerce and citizens through the coming era that will combine and deploy major new technologies that include: additive manufacturing, also known as 3–D printing; the Internet of things, linking ubiquitous sensor nets; augmented realities and smart devices; big data analytics; advanced robotics that incorporates machine learning; and nanotechnology.

The world posts were slow to grasp and adapt their role in the early phases of the digital age and were partially constrained from doing so legally. The next phases of this age of technology will likely be more disruptive than we have seen to date.

The Postal Service must be highly agile and develop an intuitive sense of its changing role and the new challenges facing American businesses and citizens. A key aspect of the ability of the Postal Service to transform must include stronger competencies for embracing and implementing innovation.

Thank you, Mr. Chairman.

[Prepared statement of Mr. Williams follows:]

**Hearing before Subcommittee on Federal Workforce,
U.S. Postal Service and the Census
Committee on Oversight and Government Reform
House of Representatives**

Oral Statement

May 22, 2014

**David C. Williams
Inspector General
United States Postal Service**

Mr. Chairman and members of the subcommittee, the postal industry has a long history of working with the private sector and others to spur innovation:

- Historically, mail transport fueled the fledging railroad and airline industries;
- Postal applications also stimulated advances in handwriting recognition technologies;
- They acted as a platform for private sector innovators in the electronic postage, presorting, and the mail order industries; and
- The Postal Service imposed the overlay of the ZIP Code across the country to the benefit of businesses and researchers.

Innovation is even more important in today's age of digital globalism. The ungovernable Internet has changed the world, but great opportunities and enhanced capabilities exist alongside awkward new systems and unfamiliar risks. Lastly, the forces of creative destruction have ravaged traditional communications and logistics systems.

In this environment, the job of an infrastructure like the Postal Service is to support citizens and businesses as they try to compete and position themselves, while it also takes care to assure that efficient market forces prevail and are not undermined. To continue in this role, understanding the changing world and rapid adaptation are increasingly critical endeavors. The Postal Service faces the tricky challenge of modernizing traditional products as it provides support services for emerging technologies. Success will largely depend on its ability to innovate and embrace the innovations of others.

As a result, continual strengthening of the Postal Service's processes for innovation will be needed that include

- Seeking to understand the frustrations and supporting the emerging needs of people and commerce,
- Developing a comprehensive innovation strategy,
- Clarifying the entry point for innovators and providing staff to join innovators in navigating the huge postal structure and to remain with them until the proposal is resolved,
- Strengthening its skills in assessing the financial viability of proposals,
- Developing the ability to engage in rapid proto-typing of new products and operational innovations, and
- Protecting its intellectual property and respecting that of others.

When pursuing innovations, partnerships with the private sector and the government are important for bringing in new ideas and specialized competencies, for sharing risks, and for leveraging the costs of R&D investments.

There are several areas where innovation opportunities seem particularly rich:

- Support for e-commerce, e-health, and e-government transactions,
    - At the front end, by providing a portal for identity verification for individuals and e-businesses and providing access to digital currency exchange instruments and
    - At the back end, by assisting with packaging and the shipment of parcels;
- Using micro-warehousing, Virtual Post Office Boxes, and e-platform services to help small businesses and innovators with logistics and shipment solutions;
- Providing seamless physical and digital access to the Postal Service network for the public and commerce by linking together its website, post offices, and digitally-enabled carriers; and
- Conducting digital analysis of the vast data now generated throughout the network for operational efficiencies, new revenue ideas, and business intelligence.

Together, these opportunities can tighten the integration of data streams and their supporting matter streams.

The Internet, smart devices, search engines, and cloud storage have laid the foundations for a changing world. An aspect of what will come next, atop this foundation, will likely be an ecosphere that continues to be ungovernable and chaotic with endless challenges, learning curves, and substantial creative destruction. The ability of society to propel rather than retard progress in these areas will depend on the competency of the postal infrastructure to support American commerce and citizens through the coming era that will combine and deploy major new technologies that include

- Additive manufacturing, also known as 3-D printing,
- The Internet of Things, linking ubiquitous sensor nets,
- Augmented reality, using smart devices,
- Big data analytics,
- Advanced robotics that incorporates machine learning, and
- Nanotechnology.

The world posts were slow to grasp and adapt their role in the early phases of the digital age, and were partially constrained from doing so legally. The next phases of this age of technology will likely be more disruptive than we have seen to date. The Postal Service must be highly agile and develop an intuitive sense of its changing role and the new challenges facing American businesses and citizens. A key aspect of the Postal Service's ability to transform must include stronger competencies for embracing and implementing innovation. Thank you.

Mr. FARENTHOLD. Thank you.

We will now move to some of our private sector folks, Mr. Davis with Outbox.

STATEMENT OF WILL DAVIS

Mr. DAVIS. Thank you, Mr. Chairman.

Innovation is in the title of the hearing today, heard of, and spoken about at least a dozen times in earlier testimony. I feel the need to go a bit off script. A movie is the only thing that comes to mind. A favorite of my daughter is the Princess Bride.

There is a scene in there where Inigo Montoya is caught up with a band of criminals and there is a criminal mastermind that keeps using the word inconceivable, inconceivable when all his plans don't go as planned. Montoya looks at him and says, You keep using that word. I do not think it means what you think it means.

That is a bit how I feel today about the word innovation. I do not think it means what you think it means. The reason for this is because innovation, at its heart, is disruptive. It destroys things. It kills jobs.

If you think that is too bold a statement consider this fact. In 1926, the S&P Index was formed. The average ten year at that time of companies on the Index was 60 years. Today, it is less than 15. In fact, since its inception, there is only one company that remains on the S&P Index and that is General Electric one single company. All those other companies are gone or destroyed.

But for all of its destructive capabilities, there is almost a salvific effect of pursing innovation. It is an even, narrow road; it is the narrow path of putting off old business models and secure cash flows and grasping for something that is uncertain.

The promise of innovation comes in the form of new jobs, new marketplaces for every job, every company. For every market that is destroyed through embracing innovation, two more pop up in its place in markets, ideas, new concepts and new workforces that simply could not have been fathomed.

What happens in that disruptive process is incumbents usually fail. They usually die off and go the way of all those other companies on the S&P 500. So as we talk about innovation of the Postal Service, we have to understand that truly embracing it means a fundamentally different Postal Service.

It means that in 10 years, it looks almost unrecognizable from the Postal Service today but that does not mean it is worse off. In fact, it does not mean that jobs have to be destroyed within the Postal Service. It means that new ones can be created.

Make no mistake, innovation will come, disruption will come. In that regard, it is a bit like junk mail, it is coming whether you like it or not. As we talk about innovation and embracing it, we need to understand it means hard, fundamental core changes to the business model, embracing it means destruction but it also means new markets, new jobs and new opportunities.

Thank you.

[Prepared statement of Mr. Davis follows:]

May 22, 2014

William Davis
Outbox, Inc.

Committee on Oversight and Government Reform
Subcommittee on Federal Workforce, U.S. Postal Service and the Census

Chairman Blake Farenthold

Introduction

Over the past two years, my cofounder, Evan Baehr, and I led a team of extraordinary individuals who each took on incredible personal and financial sacrifices to launch Outbox, an innovative approach to postal mail. We had the support of world-class investors – the same early backers of Twitter, Facebook, SpaceX, and Tesla – who risked millions of dollars to fund our operations.

I assert this to highlight that there are smart and talented individuals who care deeply about our country and the problems we face as a nation. These innovators are smart, passionate, and have already brought about tremendous societal change through new technologies and business models. Yet while their advancements have benefited every person in this committee room, they are too often left out of the governing process.

While it is shortsighted to ignore innovation, it is profoundly distressing when innovation is not simply overlooked, but suppressed by our government. If we are indeed a government established "by the people, for the people" then it follows that ours should be the most receptive to innovation, since we are history's most innovative society.

Yet our government is following a curious pattern observed not only in political history, but in business history as well. It is the pattern of *disruption*, whereby incumbents, acting in seemingly rational ways, attempt to protect their established markets by turning away from innovation. Time and again, it has been observed that these incumbents do not simply get disrupted, but are overtaken to such an extent that they completely vanish from existence.

A Primer on Disruptive Innovation

Vanish. Too bold a word? Consider the following statistic: In 1960, the average tenure of a company on the S&P 500 was approximately 60 years. Today, the average tenure is 15 years. Amazingly, since the inception of the S&P Index in 1926, the only company to remain listed is General Electric.

One. Single. Company.

Harvard Business School professor Clayton Christensen first documented this phenomenon in his book *The Innovator's Dilemma* by observing that seemingly prudent decisions of established companies ultimately led to their demise. In each case, managers would protect cash flows associated with proven business models, and would ignore business models that produced insufficient cash flows from smaller or less established business models. This was, after all, the "rational" decision.

But instead of leading to success, the more proven and established models would be overtaken by the swift adoption of newer products and services, feeding the cash flows of new entrants. These new products would often appear uninteresting to the incumbent, seemingly "not good enough" for "the job to be done." It was often believed they were serving two different customer segments. Yet over time, these newer products and services would end up serving the same customers via a relentless pursuit of improvement, until the incumbent had no more customers to profitably serve.

This is the heart of the *innovator's dilemma*: it is only by embracing newer marketplaces that an innovator can protect her established company. But in doing so, she must embrace uncertain cash flows from a product that appears to be "unprofitable."

Fortunately for the members of this committee, Professor Christensen did not end his research on this pessimistic note, and followed his initial findings with *The Innovator's Solution*. I have brought copies for each member of the committee, but in the spirit of brevity, I'll give you a hint on his findings: ***embrace innovation, don't ignore it.***

The USPS at a Crossroads

As I have seen first hand, the U.S. Postal Service (USPS) is following the textbook model of all those companies that vanished from the S&P 500: they are protecting the cash flows of their established products. Instead of embracing innovative new models, they are operating on one that has not changed in over 200 years. The only differentiator of the USPS from other historical companies is the unlimited support by our government, covering billions of dollars in losses.

But eventually, not even the federal government will be able to prop up this failing business model, as our society continues to progress and develop innovative communication tools. With each email, text message, tweet, and snap, the old methods of paper communication are being eroded.

I propose to this committee that the only way to prevent further decline is for a fundamental reworking of the USPS business model – one that embraces new models of customer engagement, empowered by consumer choice, instead of the established cash flows from volume mailers, which usurps consumer choice.

The Beginning of Outbox

Outbox was founded on the belief that this small change – giving customers choice – could become the spark to redefine this long cherished but broken medium of communication. We did so during a tumultuous period in the history of the USPS, which has experienced declining mail volume and staggering deficits for the past ten years.

While we knew that the USPS would not naturally choose this path, perhaps naively we hoped to partner with USPS to provide an alternative to the physical delivery of postal mail to a subset of users, hoping this would spur further innovation and cost savings.

Although an early test with the USPS that let users redirect their mail to us showed signs of success and operational simplicity, an interview by CNBC triggered a request from the Postmaster General himself to meet in Washington, DC. In one of the most surreal moments of our lives, we had our very own *Mr. Smith Goes to Washington* encounter where the senior leadership of USPS made it clear that they would never participate in any project that would limit junk mail and that they were immediately shutting down our partnership. This 30-minute meeting was the end of our initial business model.

The Reimagining of Outbox

We came to view our failed partnership with USPS as a David and Goliath moment: we believed our seeming disadvantage would become our greatest strength. Turning our original vision on its head, we reimagined our service as not merely playing in someone else's value channel, but as a new type of last-mile delivery channel all together: one subsidized by our users in return for collecting and electronically delivering their postal mail. If we could simply break even on the mail business, we would have built a valuable last mile network able to be monetized in many ways.

To pull this off, we built a world-class team of engineers, designers, marketers, and operations specialists in Austin and San Francisco. Funding our efforts were some of the most celebrated investors of our generation. Together, we made a product that was as beautiful as it was complex, and overcame nearly every obstacle in our path.

We created our own dynamic logistics software, developed a legal framework to open users' mail, built industrial-grade scanning machines for 1/100th of the market price, developed specialized OCR to allow customers to unsubscribe from postal mail, built and attached to our cars 5-foot mailbox flags that withstand 70 mph highway speeds, laser cut wood blocks to build mail slot solutions, and created a novel system of key decoding via photograph that inspired the creation of one startup all on its own. All this was simply the backend of our service, and our iPhone and other apps won awards for their design and elegance.

In the end, we serviced a little over 2,000 individual customers, had 25,000 people waiting around the country on our waiting list, unsubscribed our customers from over 1 million mail pieces, scanned over 1.5 million pages, and delivered over 250,000 requested mail packages. We also recycled approximately 30 tons of paper, enough to cover 86 football fields.

Outbox was buzzing. It seemed as though everyone knew something about our little company, had seen one of our red-flagged mailbox cars, or had stumbled upon a news story about us. CNN praised us, Jay Leno mocked us, and Pee Wee Herman called us "the future." We tested our anecdotal suspicions with a nationwide survey, and found that Outbox had an unaided brand awareness of 10.1 percent - even though we serviced a mere 2,000 customers in two relatively small markets.

Numbers Don't Lie

After raising $5m in June of last year, we set out to onboard the 4,000 individuals we had amassed on our central-San Francisco waitlist. We projected converting a large percentage of these individuals, and planned to scale our marketing efforts at a projected cost of $20 per acquisition.

However, after an extensive email marketing campaign to our waitlist, total yield from the waitlist was under 10 percent. And as we started marketing outside of this network, we had difficulty finding a repeatable and scalable acquisition channel. Across all of our efforts, our acquisition numbers were over $50 per lead.

As our marketing efforts lagged behind schedule, our density numbers remained consistently flat, causing us to spend about double our projected cost to service each customer. Even our most dense routes cost us approximately 20 percent more than our break-even target.

After several months of testing and refining, we reasonably concluded that we were executing well and collecting good data – it told us that there wasn't enough demand to support the cost model. Our monthly operating deficits were too high, and even though we continued to get better at acquisition, each small success actually saw our cash curve decline further because our density remained flat. For longer than we would be willing to tolerate, we would lose money for each additional customer

we gained. Despite the massive interest in our company, we learned that the product we built did not find fit in the market we targeted.

Finding serenity in knowing when to stop

For startups, it's difficult to know when to throw in the towel. Indeed, the main strategy for most of the life of a startup is overcoming impossible odds, and we built a team that did that over and over again.

This final challenge - product market fit - is one we ran after with characteristic zeal. Amidst these struggles we were reminded of the serenity prayer written by one of our favorite authors, Reinhold Niebuhr:

> *Grant me the serenity to accept the things I cannot change,*
> *The courage to change the things I can,*
> *And wisdom to know the difference.*

Our learnings from the wild adventure of Outbox

I will leave the committee with the following learnings we gained along the way:

- Giant, complex systems appear insurmountable, but aren't - they were built by people just like you and me
- The main asset the government (and big companies) has is time - which is the resource of which startups have the least.
- You may think government organizations are completely, insanely backwards; you are wrong - they are worse.
- If you can't find a hardware solution to your needs, build it - it's not that hard.
- Doing extraordinary things for customers is time consuming and hard - but very worthwhile.
- Life is too short to pursue anything other than what you are most passionate about.

Mr. FARENTHOLD. Thank you.
Mr. Weisberg.

STATEMENT OF SETH WEISBERG

Mr. WEISBERG. Thank you, Mr. Chairman.

I am from Stamps.com, a leading PC postage company. PC postage is Internet-based software that allows customers to print their own postage using their existing computer and printer. Stamps.com serves over 500,000 registered customers primarily small businesses.

In 1999, we became the first company to offer a software only PC postage solution, enabling customers for the first time ever to print real postage from any Internet-connected PC and standard printer.

Just seven years ago, PC postage accounted for $250 million in annual postage sale. Last year, it accounted for over $3.25 billion in postage sold. Stamps.com postage growth alone was more than 35 percent year over year. That is consistent double digit growth every year, even through the heart of the recession.

Virtually all the Priority and Express growth surge in recent years is generated through the PC postage industry channel. A recent study shows revenue through the industry PC postage channel costs two cents per $1.00 of revenue compared to 47 cents per $1.00 through a USPS-owned retail outlet.

PC postage produces secure, sender-identifiable mail which is important for security against biological or other attacks. PC postage provides customers with cutting edge technology without the Postal Service having to pay for research, development, support or maintenance.

Stamps.com has launched an enterprise service targeted to organizations with multiple geographic locations. It features enhanced reporting that allows a central location such as a corporate headquarters greater visibility and control over postage expenditure across their entire network of locations.

An e-commerce merchant with multiple stores can use Stamps.com to consolidate all their orders so they can ship them out with one click, they can directly import all their order data from the most popular online marketplaces and shopping cart software and then automatically print the shipping label. All the shipping data, including the USPS tracking, automatically posts back to their web store.

Stamps.com also automatically keeps the buyer informed, orders the carrier pick up, sends an electronic manifest to the Postal Service and generates a scan form so all the carrier does is scan the form once and all the packages are automatically in the Postal Service's computer system.

PC postage is based on a public-private partnership with the Postal Service regulating industry participants. Our products must complete extensive USPS testing and evaluation in the areas of operational reliability, financial integrity and security.

The Postal Service also partners with the industry to achieve mutual win-win goals of improving the customer experience, increasing revenue and minimizing costs. For PMG, the CIO sitting on this panel and so many of the dedicated Postal veterans who have ably worked with us for many years deserve much credit for

the success story that is the partnership between the Postal Service and the PC postage industry.

We believe public-private partnerships are the best path forward as technology innovation becomes increasingly important for the future. Having the Postal Service create its own technology is not the best approach. Instead, it should provide incentives for industry innovation. This allows customers to pick the best technology solutions for their needs.

PC postage provides jobs for the industry and the Postal Service. Every package produced is ultimately delivered by a city or rural letter carrier. Growth in PC postage means more packages to deliver, more letters to deliver and more volume to service.

Thank you for the invitation to testify today.

[Prepared statement of Mr. Weisberg follows:]

TESTIMONY OF

SETH WEISBERG

CHIEF LEGAL OFFICER

STAMPS.COM

Examining Innovative Postal Products for the 21st Century

United States House Committee on Oversight and Government Reform

Committee on Oversight and Government Reform

Subcommittee on Federal Workforce, U.S. Postal Service and the Census

MAY 22, 2014

INTRODUCTION

My name is Seth Weisberg, and I am the Chief Legal Officer of Stamps.com, a leading PC Postage company. In this written version of my testimony, I discuss the postal products we have developed, our relationship with the Postal Service, and Postal innovation opportunities.

POSTAL PRODUCTS WE HAVE DEVELOPED

PC Postage is Internet based computer software that allows customers to print their own postage using their existing computer and printer. Our software provides a full suite of cutting edge tools to mailers and shippers. We provide continuous product improvements and high touch customer support, all at negligible cost to the Postal Service. Stamps.com is the leading vendor, along with Endicia, in the US Postal Service PC Postage® program and the leading vendor in the USPS Customized Postage program with our PhotoStamps® product. Stamps.com specializes in bringing the newest Internet technology to mailers and shippers, and we currently serve over 500,000 registered PC Postage customers that are primarily small businesses from a cross-section of industries. Some sample customer testimonials are available at http://www.stamps.com/postage-online/testimonials/. In 1999, Stamps.com became the first company to offer a commercial software-only PC Postage solution, enabling customers for the first time ever to print real USPS postage from any Internet-connected PC and standard printer.

Customer adoption of PC Postage has grown rapidly since it was introduced, and has brought in new mail volume that would otherwise have gone to postal competitors. Just seven years ago, PC Postage accounted for roughly $250 million in annual postage sales. In 2013, PC Postage accounted for over $3.25 billion in postage sold. Stamps.com postage growth alone was more than 35% year over year. That is consistent double digit growth every year even through the heart of the recession. The substantial majority of postage purchased through PC Postage is used on Priority Mail and Express Mail

products – the classes of mail that provide USPS with its highest level of contribution above direct cost. Virtually all the Priority and Express (domestic & international) growth surge in recent years is generated through the PC Postage industry channel. A recent Postal Service study showed revenue through the industry PC Postage channel costs $0.02 per $1.00 of revenue compared to $0.47 per $1.00 through a USPS owned retail outlet.

PC Postage provides many benefits to the USPS, including at least six items: (1) PC Postage produces a secure, sender-identifiable mail piece which is important for security against biological or other attacks because it reduces the amount of anonymous mail in the mail stream; (2) PC Postage automatically checks addresses reducing the cost to the USPS of undeliverable-as-addressed mail; (3) PC Postage can adapt quickly to changes in rates and classifications; (4) the PC Postage product and industry help to educate postal customers on Postal Service requirements; (5) PC Postage mail includes intelligent mail barcodes optimized to work with current and future USPS mail processing systems; and (6) PC Postage provides Postal customers with cutting edge technology without the Postal Service having to pay for research, development, support or maintenance.

PC Postage directly supports several long term USPS initiatives, including expanding access to postal services, using technology to enhance value, and enhancing package services. In addition, as barcodes are increasingly more reliably scanned in mail processing centers, PC Postage is even more valuable in terms of real-time data for the USPS that can be used to improve tracking and tracing capability, to improve revenue protection, to enhance mail security and deter terrorism, and to provide valuable real-time data on customer mailing & shipping behavior.

In 2004, Stamps.com invented and launched PhotoStamps® labels, a new form of PC Postage through which consumers or businesses turn digital photos, designs or images into valid US postage. PhotoStamps is used as regular postage to send greeting cards, letters, postcards or packages. We

estimate that as much as 50% of the postage revenue from PhotoStamps is brand new revenue for the Postal Service as customers substitute from electronic communication back to physical mail, increase their usage of the mail, or purchase PhotoStamps for collector's items or gifts that never get used on mail. In addition, 72% of PhotoStamps customers have stated that PhotoStamps makes mail more exciting to send, 55% say PhotoStamps make mail more exciting to receive, and 56% say PhotoStamps makes their perception of the US Postal Service more positive or much more positive.

In 2008, we launched an Enterprise service targeted to organizations with multiple geographic locations. It features enhanced reporting that allows a central location such as a corporate headquarters greater visibility and control over postage expenditures across their network of locations. Customers such as government agencies increasing their use of small and home offices are attracted to our corporate enterprise solution based on our dramatically lower cost of ownership and visibility into individual employee activity from our sophisticated front-end reporting tool with real time data, improved web-based postage management tools, and enhanced web-based financial and administrative controls for central decision makers. The Enterprise service has resulted in a surge of usage of letter mail, with our customers' letter mail postage spend increasing at a double digit pace each year.

Most recently, we have focused on higher volume shippers, one of the most important strategic initiatives of the Postal Service. Our technology includes: (1) batch capability that allows users to print a large volume of shipping labels all at once; (2) database integration technology for seamless automatic import and export of information to and from a customer's internal order database; and (3) direct integration with eCommerce platforms including eBay, PayPal, Amazon.com, Yahoo and Google, so that a user can read and write order information directly from our software into and out of these platforms. An e-commerce merchant with multiple stores can consolidate all their orders so they can ship them out with ease. With one click, they can directly import all of their order data from the most popular online

marketplaces including eBay®, Amazon.com®, Yahoo!®, PayPal®, Google Checkout™ and Etsy, plus the most popular shopping cart software including ChannelAdvisor®, Magento®, osCommerce, ProStores™, Volusion®, X-Cart® and Zen Cart™. When they are ready to ship, they can just select the orders and print their shipping labels. All the shipping data including USPS Tracking will automatically post back to their web stores. They can also automatically order a carrier pickup, send an electronic manifest to the Postal Service, and generate a SCAN form, so all the carrier has to do is scan the form once and all of the packages are automatically in the Postal Service's computer systems. Stamps.com also has a deep integration partnership with Amazon's Merchant Marketplace. Merchants who sell in Amazon's Marketplace and ship the packages themselves can print postage for the packages via Stamps.com's integration as part of a seamless integrated process flow.

OUR RELATIONSHIP WITH THE POSTAL SERVICE

The PC Postage industry is based on a partnership between the Postal Service and private industry that was forged in the 1990s. Startups including Stamps.com approached the Postal Service about allowing postage printed from a normal PC. The Postal Service wisely allowed private industry to solve the technology challenges to securely and conveniently print U.S. legal tender in the form of postage.

Public Private Partnership in our Industry takes the form of the Postal Service regulating industry participants to make sure they are secure and work well technically with the Postal Service's systems. PC Postage products complete extensive USPS testing and evaluation in the areas of operational reliability, financial integrity and security to become certified for commercial distribution. The USPS certification process to become an approved PC Postage provider is a standardized, extensive process that took the existing approved providers years to complete. We are subject to ongoing audits, and review and approval of product modifications. The Postal Service also partners with the industry to

achieve mutual win-win goals of improving the customer experience, increasing revenue, and minimizing costs. Pat Donahoe and so many of the dedicated Postal veterans who have ably worked with us for many years, deserve much credit for the success story that is the partnership between the Postal Service and the PC Postage industry.

We believe Public Private Partnerships are the best path forward for the Postal Service as technology innovation becomes increasingly important for its future. We think it would be a mistake to just dictate to the Postal Service that it should innovate new technology. Having the Postal Service create its own technology is not the best approach. Instead, the Postal Service should encourage and enable the marketplace to develop, maintain and support modern technology. They should provide incentives for industry innovation that helps the Postal Service and its customers. This allows Postal Service customers to pick the best technology solutions for their needs. It is much more efficient. We commend as helpful the OIG White Paper called Public-Private Partnerships: Best Practices and Opportunities for the Postal Service, published June 24, 2013.

This structure led to industry participants such as Stamps.com inventing ideas and solving technical challenges that were considered unsolvable by most companies in the postage meter and postal service arenas, and those ideas and our intellectual property are still the cornerstone of all postage printed online today. Furthermore, the PC Postage industry has spent hundreds of millions of dollars each on marketing, new product development, and ongoing maintenance and support. The Postal Service and its customers get the benefit of this spend.

To make partnerships like this work, it is important that the Postal Service not take unfair advantage of its regulatory position and misuse our intellectual property. As an example, the Postal Service should not be allowed to launch its own directly competitive PC Postage products where they unfairly compete by not following the same regulations they require of the industry. The PC Postage industry strongly supports Section 703 of the House Postal Reform Bill. It requires this basic fairness and

gives the Postal Regulatory Commission authority to prescribe regulations to carry it out. The Postal Regulatory Commission plays an important role and we think they are great. We also support requiring the use of digital signatures and in person sender verification to ensure adequate aviation security.

POSTAL INNOVATION OPPORTUNITIES

The single best opportunity for Postal growth is in e-commerce shipping. Forrester Research projects online retail sales will grow at a compound annual rate of nearly 10% from 2013-2018. By 2018, the web will account for 10% of U.S. retail sales. Because the Postal Service already visits every consumer address and has tremendous capacity to deliver more at low marginal costs, it is uniquely positioned to benefit.

An important current area of innovation where we are working closely with Chief Information Officer Jimmy Cochrane and his team is improving technology for packages. We are working together for all packages to include barcodes for complete tracking and routing. Stamps.com recently conducted an in depth study designed to evaluate the three largest shipping carriers in the U.S. market: USPS, UPS and FedEx. We analyzed the main factors an e-commerce business takes into consideration when selecting a shipping carrier. The study found that for comparable e-commerce packages, the Postal Service had the shortest delivery time for the lowest price, with a competitive average of 9.42 tracking scans per package. The full study is available at http://www.stamps.com/shippingwar/shipping-carrier-war.pdf. The strong improvement in scans can be directly attributed to the work of Cochrane's team.

The growth opportunity with PC Postage has the attractive benefit of providing jobs, both in industry and in the Postal Service. Every package produced is ultimately delivered by a city or rural letter carrier. Growth in PC postage means more packages to deliver, more letters to deliver, more volume to service. The volume is everywhere, but especially significant in rural areas where the Postal

Service's marginal cost structure for delivering beats its competition. Public Private Partnerships also enable services for all segments of the marketplace. PC Postage brings world class technology support for those citizens who rely on the USPS every day, and for the fast growing e-Commerce community.

Thank you for the invitation to testify today.

Mr. FARENTHOLD. Thank you, Mr. Weisberg.
Mr. Eidemiller.

STATEMENT OF PATRICK EIDEMILLER

Mr. EIDEMILLER. Good morning, Mr. Chairman and members of the subcommittee.

My name is Patrick Eidemiller and I am Director of Engineering and Technology for M-pack Systems.

We are a small startup company that produces a better pharmacy package called m-pack, the future of prescription packaging. M-pack was invented by 71 year old navy vet named Dick Lee. This is m-pack, the flat pharmacy box. This is a traditional ground box.

M-pack has many advantages but most important are this vial is tamper evident, this bottle is not. This bottle of water is tamper evident; this prescription is not. Our entire drug supply chain has more security in this than we do in this.

We also have a lot more label space so it is much easier to read. Lastly, it is much more space efficient and much more compact. M-pack is made in the United States in Erie PA. We are adament about U.S. production.

We have another advantage and that is the reason I am here today. The USPS provides a favorable rate for what is called a machinable flat. This is a machinable flat; this is a parcel. The over the counter rate for this parcel is $2.20. The over the counter rate for the machinable flat is $1.56, so there is a 29 percent savings to the taxpayer for every prescription medication mailed in the United States if it is classified as a machinable flat.

Realizing what we had with the flat vial and considering the U.S. Government is one of the largest users of prescriptions by mail, we saw an opportunity really to save the taxpayers' money and provide a better and safer vial through the mail and through the post office.

Working with the Henrietta manufacturer in New York, we developed this envelope which meets all mechanical requirements of a machinable flat. We tested it on test equipment in Ft. Worth, verified that it worked and received our approval on June 17, 2011 that our flat mail piece had been approved.

Over the next 18 months, we continued to improve and refine our product to look like this, smaller, lighter, and cheaper. More weight is more costly, we took two ounces out of this envelope. We put together a package that we could 50 a second; this one was 15 per minute. We put in 18 months of work to go from this to this.

We resubmitted our package plus some of the internal improvements that occurred to us. We also wanted to retest. Our packages were rejected, not only this new package but the existing one as well. We were shocked. This had been approved once. It was for a completely different reason. It was not the fact that it doesn't meet the mechanical requirements of a machinable flat which is bent like this, bent like this. It was that a box in an envelope was not a machinable flat. That is why we were rejected.

We were shocked. We had already been approved. We went back, I sent a letter to Gary Reblin. I love the flat rate box and use them all the time and we thought we had a sympathetic ear. We were referred back to Mail Standards and got a very curt response that

basically said, "Thank you especially for your persistence. Unfortunately, this piece with its current content qualifies as a parcel. If you change the contents, please contact us again."

If we change the contents from this to this, please contact us again. The entire point, I'm sorry, is not this; the point is this. This is a better, safer vial but because of the shape it is 29 percent cheaper.

We felt frustrated by our entire experience with the post office. We went to the post office for a reason. The post office provides value, the post office is the only agency that can legally place prescription drugs through a mail slot or in the mailbox and not leave it on our doorstep. That is an important factor.

We want to work with the post office. We asked, we begged, we pleaded. We will change our package, we will test it at our expense. We want to use the post office and it fell on deaf ears.

We went to the private sector, UPS and they said, you know what, we will take it, no questions asked, because we know how many of these we can put on an airplane, it is very safe, a second day service at a dollar apiece. That is why I am here.

Thank you, members of the committee.

[Prepared statement of Mr. Eidemiller follows:]

"Examining Innovative Postal Products for the 21st Century."

Oversight and Government Reform Committee's Subcommittee on Federal Workforce, U.S. Postal Service and the Census

9:00 a.m.
Thursday, May 22, 2014
2154 Rayburn House Office Building

Patrick Eidemiller
Director Engineering and Technology
Mpack Systems

Testimony

Introduction

Thank you for the opportunity to testify today. As a person with nearly 25 years of experience in retail supply chain and logistics, I welcome this opportunity to testify to the subcommittee on Postal Reform. It's a transitional time for the Post Office, a time of opportunity where their unique position serving every address America with existing infrastructure should be a key competitive advantage, a huge asset in last mile delivery that is unique, distinctive and extremely expensive to duplicate.

I've spent my career helping retailers improve their supply chain operations, and over the past two years, worked with consulting firm Boston Retail Partners. BRP has been at the forefront of enabling traditional brick and mortar retailers to remake themselves to satisfy their customers' desire to have product shipped directly to their doorstep. For many of these retailers, the USPS isn't on the radar as an alternative to UPS or FedEx, and there is no reason that it shouldn't be.

Body

I've been invited today to testify about our experience in trying to gain acceptance for the m-pack® flat mail piece. A mail piece designed to be profitable handled by the USPS and reduce the cost of mailing prescription drugs.

The idea behind m-pack® started with handling, square is easier to handle and more space efficient than round. The USPS gives machinable flats a lower rate than a parcel of the same weight. I am not completely up to date on rates, classifications and categories and the USPS online documentation isn't written for the lay business owner, **here's a sample spread on over the counter rates**:

		Parcel		Flat	
		Weight (oz)	Cost	Weight (oz)	Cost
1	8/08/11	5.30	$2.22	7.50	$1.56
2	5/16/14	3.00	$2.32	3.00	$1.20
3	5/16/14	3.00	$2.32	3.00	$0.90

1. Original Over the Counter Rate Comparison for m-pack® mailer.
2. Using over the counter-Endicia Parcel Postage versus Commercial Flat rate from USPS website)
3. The cost for 3oz First Class mail-Endicia versus a parcel of the same weight for reference.

Flats have clear price advantage to all users of the Post Office, and this page from the 2013, 5 year plan (See Exhibit 3) indicates that first class mail is 3x more profitable compared to parcels. I'm not privy to how the USPS accounts for costs, but the postal rate chart on the USPS website lists "First Class Mail-Commercial Flats". I'm not here today to discuss specific rates, but our experience to bring a better mail piece to the Post Office that also benefits the tax payers of this country through lower prescription costs.

Our team looked at the machinable flats specifications and designed a mail piece specifically to meet all of the requirements in Section 301 of the Domestic Mail Manual, then went Siemens to prove that our package could indeed run on their flats automation. **Here's a picture** of our mailer running on their flats automation taken from a video of the testing. On June 17, 2011, we received approval of our package from USPS. Please see Exhibit 1.

While this mail piece met the physical and mechanical properties required, it was hard to automate, expensive, and too heavy, more ounces=more shipping cost. We spent the next 18 months refining our package, taking two ounces off the package and creating a solution that could package m-pack®s for mail at up to 50 a second.

On January 15th, 2013, we submitted three different package configurations for approval as a machinable flat:

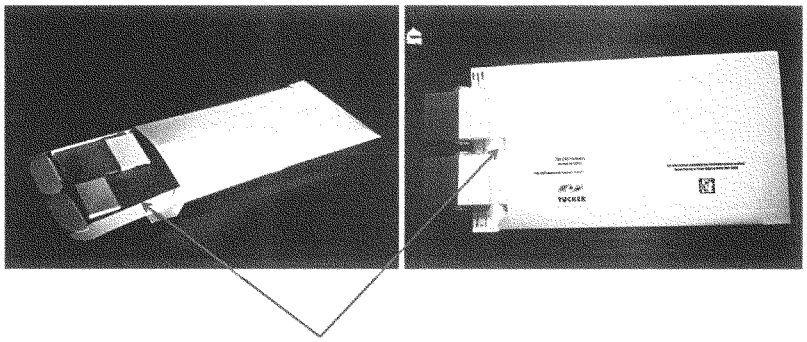
- A process called cold seal where the envelope is created around the package
- A Tyvek Envelope with the new inner design
- An update to the originally submitted cardboard envelope with the new inner design.

The response from the USPS mailpiece analyst recapped all of the ways the pieces met the mechanical standards of a machinable flat, but all three were denied stating that **"...contents within the outer envelope are boxes, these pieces do not meet the DMM standard"** and do not qualify as a flat. **Here's a picture** showing the differences between the approved and not approved mailpiece.

The m-pack® mailer below uses the same outer envelop and has the same contends, the m-pack® flat pharmacy vial.

Approved June 17th, 2011 by Don Stuhler, Western New York Mailpiece Design Analyst.

Denied February 27th, 2013
Reason: Boxes in an envelope are not a Flat.



Flat tray replaced by plastic web.

In March of 2013, Richard Lee, an m-pack® partner visited the Annual Postal Forum and demonstrated the mailer to Richard Postar from USPS, who was interested in moving the package forward, but never responded to Richard's follow up.

In May 2013, I noticed a blurb on the appointment of Gary Reblin as the VP of New Products and Innovation--he was the sponsor of the Flat Rate box, and I sent him a letter expecting a sympathetic ear. We had a new innovative product that benefits the USPS and the many government agencies sending prescriptions medications thru the mail. We were directed to Lizbeth Dobbs at Mailing Standards, which I did, requesting next steps and offering to engage USPS flats automation vendors at our expense to demonstrate and prove that m-pack® could be processed efficiently, reliably, safely and profitably.

My submission was met with an email thanking me "**for my persistence**", and to contact them again "**if we modify the contents**". My final reply asking for an answer why the same envelop with the same contents was approved previously remains unanswered and m-pack® decided to focus our efforts on other parts of our business. Since then we've contacted UPS and they are excited about the opportunity to handle our mailer.

Summation.

As logistics professionals and business people, we are always looking for opportunities to lower costs and improve margins, both for ourselves and our customers and its time that the Post Office functions the same way. We tried various channels to open a dialog on our mailer, presented the benefits of the package, and volunteered to test and modify the package if necessary to meet the needs of the Post Office. This package would benefit one of it's largest customers, the US Government and the tax payers of this country.

The Post Office touches more than 8 million jobs in the US with an enviable last mile delivery network and can remain relevant provided a change in culture and approach that welcomes change and innovation instead of hampering it. There is a glimmer of hope. Like many professionals today, I work out of a home office and there are Postal Products that I love that make my life easier. But the Post Office must do more, to foster new and innovative products, work with industry to create wins for the Post Office, the consumer, the businesses the rely on the platform.

Appendix

Table of References

Exhibit 1 – M-pack® Mailer Submission ChainOfCorrespondence
Exhibit 2 - DMM 301 Physical Standards for Discount Flats
Exhibit 3 - USPS5YearBusinessPlanJune2013
Exhibit 4 – NACDS Stats on Adherence Info, Prescriptions by State;
Exhibit 4.1 - NEHI-Thinking Outside the Pillbox
Exhibit 5 - PhRMA_Improving Medication Adherence_Issue Brief
Exhibit 6 - More Patients Balk at Cost of Prescriptions - WSJ
Exhibit 7 - Consumer ReportsDrugComplianceFINAL
Exhibit 8- Mail Order Savings-April 2012 Annual Drug Trends
Exhibit 9 - adherenceNEJM08042005
Exhibit 10 - calif board minutes April 1 2014
Exhibit 11 - Senate, House Reach Agreement On National Traceability Law
Exhibit 12- Total Number of Retail Prescription Drugs Filled at Pharmacies _ The Henry J

The story of m-pack® .
The genesis of the vial started twenty years ago in 1994 when two navy veterans, Richard (Dick) Lee, now 71 and Tom Guschke, now 66, were working on a CMOPS (drugs by mail) project for the VA in Kansas City. They were frustrated by how slow and cumbersome handling round vials were compared to their previous experience automating the handling and sorting CDs and Cassettes at BMG Music speeds of 240 per minute. Surveying the market for sortation systems and reviewing the postal regulations, they labored to create a package that could be handled as a machinable flat through Postal Automation for the next 18 years.

Along the way, Bill Negrini, former president of Owens-Illinois Healthcare Packaging and Patrick Eidemiller joined the team. Between the four of us, we have over 200 years of collective experience in packaging, logistics, and process improvement.

Determined to make a difference against the resistance to change, Mpack Systems is a small start-up company that believes in the benefits of our package and its ability to:

- be profitably and safely handled by the Post Office,
- save the tax payer substantial amount of money between:
    - direct shipping and handling costs, and
    - improved outcomes through better patient compliance and adherence
- reduce costs through the elimination of manual pharmacy processes
- provide a safer package for the consumer

Benefits of Prescriptions by Mail

Prescriptions filled at retailed totaled 3.7B in 2011 and some estimates put Mail Order at least 20% of the total...around 900 million. The single largest user of mail order pharmacy is believed to be the US Government considering VA, Military, Medicare and the rest of public health.

Studies indicate that mail order prescriptions **cost 21% less** to fill than a traditional retail pharmacy, see Exhibit 8. In addition, studies also indicate that individuals that get their refills by mail are much more complaint that individuals that refill through retail pharmacies. A UCLA/Kaiser Permanente Study **indicated 7% better compliance** through mail order, see Exhibit 13.

Challenges of Prescriptions by Mail

Traditional round vial packaging doesn't allow for sequencing at the point of fill like the m-pack® mailer, so additional sorts are required between the source and the consumer. The flat mailer allows for prescriptions to be sequenced at the point of fill and maintain that integrity all the way through the postal process.

Figure 1. Mpack Mailer Can be Sequenced by Zipcode and carrier at Point of Mailing

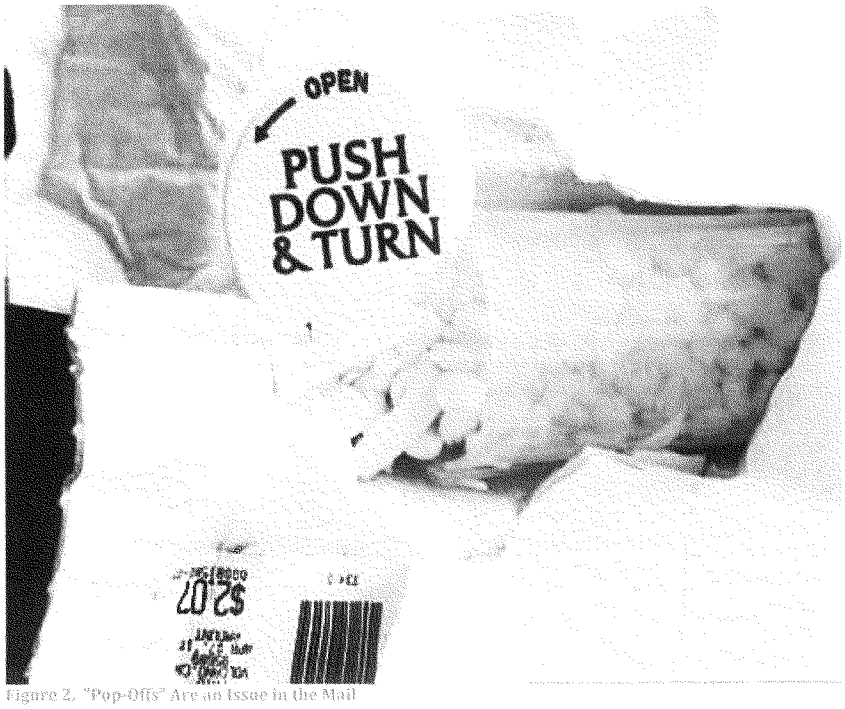


Figure 2, "Pop-Offs" Are an Issue in the Mail

There are two additional issues with traditional round vials when shipped through the mail,

- Crushing, where the vial actually breaks and spills it's content into the envelope
- Pop offs, where the top comes completely of the vial.

Both presents a hazard for the mail system and, if more than one vial is compromised, the risk that the right drug gets back into the right vial.

Impacts of Improved Compliance

Compliance and Adherence is measure of often people take their prescription drugs and the reality is most of the population is terrible at maintaining their drug regiment.

And better compliance means better outcomes, which lowers overall healthcare costs. Studies put the cost of non compliance from between $100B, Exhibit 9, The New England Journal of Medicine 2005, and a more recent, often-sighted study the

New England Healthcare Institute quantifies an economic cost $290 billon per year for noncompliance.

> "NEHI estimates that nonadherence along with suboptimal prescribing, drug administration, and diagnosis could result in as much as $290 billion per year in avoidable medical spending or 13 percent of total health care expenditures."
>
> - "Thinking Outside the Pillbox A System-wide Approach to Improving Patient Medication Adherence for Chronic Disease"
> A NEHI Research Brief – August 2009"

See Exhibit 4.1.

Flats Versus Parcel

The USPS provides better rates for Flat Mail than Parcels. The rates below are from the USPS Website for Commercial Flats as of 05/16/2014.

First-Class Mail - Commercial – Flats
As of May 16, 2014

	Automation				Nonauto
Weight Not Over (ounces)	5-Digit	3-Digit	ADC	*Mixed ADC	Presorted
1	0.451	0.634	0.691	0.782	0.815
2	0.659	0.842	0.899	0.99	1.023
3	0.867	1.05	1.107	1.198	1.231
4	1.075	1.258	1.315	1.406	1.439
5	1.283	1.466	1.523	1.614	1.647
6	1.491	1.674	1.731	1.822	1.855
7	1.699	1.882	1.939	2.03	2.063
8	1.907	2.09	2.147	2.238	2.271
9	2.115	2.298	2.355	2.446	2.479
10	2.323	2.506	2.563	2.654	2.687
11	2.531	2.714	2.771	2.862	2.895
12	2.739	2.922	2.979	3.07	3.103
13	2.947	3.13	3.187	3.278	3.311

*Mixed ADC
(1) A presort level in which all pieces in the bundle or container are addressed for delivery within the service areas of more than one area distribution center (ADC). (2) Working mail that USPS sorts further. (3) A price category available for some mail classes or products prepared at a mixed ADC presort level.

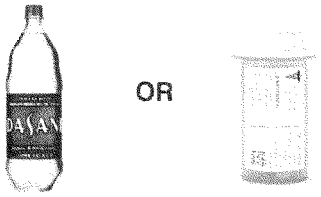
NDC
A highly mechanized and automated mail processing facility formerly designated as a bulk mail center. NDCs are classified as Tier 1, Tier 2, or Tier 3 sites. Tier 1 sites handle the distribution of local (turnaround) and destination Standard Mail, Periodicals, and Package Services pieces. Tier 2 sites have Tier 1 responsibilities and handle the distribution of Standard Mail, Periodicals, and Package Services pieces locally and to the network. They also handle surface transfer center containerization and dispatch

operations of outgoing and incoming Priority Mail, First-Class Mail, Periodicals, and Standard Mail pieces. Tier 3 sites have Tier 1 and Tier 2 responsibilities and serve as consolidation points for less than truckload volumes from Tier 2 sites.

HR 3204-The Drug Safety and Security Act.

This past year, The House passed HR3204, the Drug Security and Safety Act, a measure that is way over due and most in the industry are pushing back as unrealistic. The reality is that the is an important step in addressing many of the shortcomings of the current prescription supply chain. Unlike nearly any other consumable product, they isn't package integrity between producer and consumer and limited traceably. This graphic sums it up.

Which of these two packages are tamper evident?



The water is, the prescription isn't.

This vial is, with a serialized pedigree from the patient back to the original manufacturer. Pedigree and lot control disappear at the back door of the pharmacy. Retail pharmacies are not subject to the same FDA standards as manufacturing facilities. Starting in 2015, the FDA is tightening up the standards, and most retail pharmacies are not equipped to comply, which will place even more emphasis on mail order.

Customer safety isn't an undue burden on industry. Track and trace is not an undue burden. One of customers, Prescript Pharmaceuticals has been doing serialized lot control since the 1970s.

Mr. FARENTHOLD. Thank you very much.
Mr. Everett.

STATEMENT OF TODD EVERETT

Mr. EVERETT. Good morning.

Today, I will describe to the subcommittee how the U.S. Postal Service has partnered with and helped make it possible for my company, Newgistics, to develop innovative products responsive to the needs of the direct-to-consumer retailers, manufacturers, distributors and logistics service provides.

Thank you, Mr. Chairman and members of the subcommittee, for allowing me to speak on behalf of Newgistics at today's hearing.

My name is Todd Everett. I am the Chief Operating Officer of Newgistics. Newgistics is a privately held company based in Austin, Texas, with more than 400 people on our payroll. We were formed in 1999 on the premise that we could develop a better way for consumers to return merchandise to retailers.

Today, we are a leading provider of technology-enabled solutions for direct-to-consumer retailers, manufacturers, distributors and logistics service providers. Our success is due in no small part to the Postal Service and its willingness to listen and work with private entities like Newgistics to develop innovative solutions.

More specifically, we offer a national, integrated parcel delivery and return service for our customers. We are able to provide cost-effective, reliable and convenient shipping solutions by working with the Postal Service to provide last-mile delivery and first-mile pickup.

When Newgistics was founded, we viewed ourselves as a technology company that would provide information to retailers regarding returned packages. Soon, however, we evolved into a "returns" logistics company, handling returns for retailers, making use of innovative technologies.

We concluded that customers wanted to be able to return packages easily and retailers wanted to make their returns more efficient and cost-effective.

Therefore, we developed a proprietary intelligent returns solution, making use of bar codes embedded in our Newgistics smartlabel. These intelligent bar codes provide us and our customers with detailed information that quickly enables our customers to manage their transportation and returns-processing resources.

As we evolved, we discussed with the Postal Service the possibility of creating a new, convenient process for handling returns for large shippers of merchandise that made use of Newgistics smartlabel.

Based upon our collaboration with the Postal Service, the USPS developed one of its most innovative products, the Parcel Return Service, also known as PRS. PRS is a Postal Service program under which approved providers like Newgistics are allowed to retrieve returned parcels directly from designated postal service facilities.

Such early retrieval of returned parcels enables us to provide advanced data and customized return services to retailers.

We found that the Postal Service was very receptive to working with us. Beginning in late November 2001, we had numerous meetings with the Postal Service. Following those meetings, in May 2003, the Postal Service sought permission from the Postal Rate Commission to test PRS.

Approval was granted in September 2003 and testing began in October 2003. After two years of successful testing, in October 2005, the Postal Service sought permission for PRS to become a permanent class of mail. The Post Rate Commission approved PRS on or about March 3, 2006. From that point, we were able to implement our returns solution, including Newgistics smartlabel in conjunction with the PRS program.

Our intelligent parcel return solution developed in collaboration with the Postal Service simplifies the return process by offering consumers pre-paid return via Postal Service pickup at their home, workplace or drop-off at any mailbox or post office. That is, via our solution, packages enter into our system through the Postal Service's vast retail and collections network.

Our solution also gives consumers returning their product confidence that their return will be handled expeditiously.

In addition, our parcel return solution has enabled Newgistics to expand its product offerings to include parcel delivery, fulfillment and e-commerce solutions to our customers.

Put simply, the Postal Service has been and continues to be a willing and important partner in our efforts to develop innovative solutions that bring significant value to our customers and their consumers.

Likewise, we understand that PRS also has been successful from the Postal Service's perspective. Based on the most recent available data, the Postal Service's parcel return service continues to grow. In the USPS' fiscal year 2013, the Postal Service handled more than 50 million PRS packages, generating more than $120 million in postal revenue.

Mr. Chairman and members of the subcommittee, thank you for the opportunity to testify at the hearing today.

[Prepared statement of Mr. Everett follows:]

STATEMENT OF TODD EVERETT
Chief Operating Officer, Newgistics, Inc.

BEFORE THE
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM
SUBCOMMITTEE ON FEDERAL WORKFORCE, U.S. POSTAL SERVICE, AND THE CENSUS

Concerning
Innovative Postal Products Developed in the Private Sector

May 22, 2014

Today, I will describe for this Subcommittee how the United States Postal Service has partnered with and helped make it possible for my company, Newgistics, to develop innovative products responsive to the needs of direct-to-consumer retailers, manufacturers, distributors, and logistics service providers.

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Mr. Chairman and Members of this Subcommittee, thank you again for the opportunity to testify today.

* * *

BIOGRAPHICAL INFORMATION

Todd A. Everett has been with Newgistics, Inc. since March 2005 and serves as the company's Chief Operating Officer and General Manager, Parcel and Fulfillment Services. He previously served as Director of Operations from March 2005 to January 2010 and as Vice President of Operations from February 2010 to about October 2013. Prior to joining Newgistics, he spent nine years of his career with Intel Corporation where he had responsibility for the company's outsourced transportation and logistics functions for North and South America. Mr. Everett holds a bachelor's degree from Iowa State University.

Mr. FARENTHOLD. Thank you very much, Mr. Everett.

We are going to break with tradition a little bit here. Normally, I would ask the first round of questions. Mr. Lynch has to go to another committee, so I am going to allow him to ask his questions.

Mr. LYNCH. Thank you, Mr. Chairman, for your indulgence. I appreciate that.

I thank the members of the panel for their help. It has been a very interesting discourse thus far.

When I think about the future, the next generation of the U.S. Postal Service, I tend to think about what they have going on in Switzerland. Pitney Bowes, one of our companies, has a system over there that they have rolled out. It is called a digital mail scan where I can pull up my mail. As it arrives at the regional mail facility, I can go on my secure website and see my mail before it is delivered. If I don't like what is there, I can click on it and say, do not deliver.

Mr. Davis when you say junk mail is coming but not necessarily. It is not as inevitable as you think. You can click on it and then tell it not to deliver it. That is a new iteration for the Postal Service that is out there. I think that will be coming to the United States at some point.

It would be a great thing for the environment because of the huge drop in mail volume because people won't be getting mail they don't want in their mailbox. At my apartment in D.C., that is 90 percent of what I get, circulars and stuff like that. If my wife and girs didn't get the sale information they get every day, I would probably save a ton of money.

The volume will drop and that will be good for the environment. It will be a terrible thing for the Postal Service national letter carriers, it will drop the volume, but that is really constructive change. That is what we will have to deal with at some point.

What the Chairman of the full committee has in mind is putting out about 1.5 million of these steel boxes in neighborhoods all over America, in urban areas, in towns that you must change 50 million door delivery addresses to clusterboxes so even if there are 100 addresses in a box, it comes to 1.5 million.

If you make them bigger, put 200 in there, you can drop that to maybe 750,000. That is a huge, huge expense, even where it is feasible. Once we have 750,000 or 1.5 million steel boxes out there all over America, how much flexibility do you have in light of technological changes coming.

Putting a steel box in the middle of the neighborhood and telling senior citizens, you can walk a quarter of a mile to get your mail, it is disruptive in a way but that is not innovation. That is going backward in time. Come on out and walk down to a steel box and get your mail. That is not creative. That is extremely costly and inefficient and it reduces our flexibility, I believe, in terms of what we are doing next.

Mr. ISSA. Would the gentleman yield so I could respond?

Mr. LYNCH. No, I am going to have to leave. You can talk about me while I am gone.

Mr. ISSA. My pleasure.

Mr. LYNCH. I am sure it is, Mr. Chairman.

When I think about the idea, as well, of going to five day delivery, another bad idea but popular around here, the President supports it, the Chairman supports it, I oppose it.

Most innovation tries to tie in with what society is doing. It tries to answer a need that is out there. Where I live, which is common in America today, we operate on a seven day schedule. All the stores that used to be open five days, long ago they went to seven days and now the post office, in the spirit of innovation, is going to close for two days every week. I think that is the wrong direction.

Mr. Davis?

Mr. DAVIS. You had a fabulous example of citizens in Switzerland being able to unsubscribe from junk mail. In fact, that technology existed in the United States for two years We brought that technology to the States with Outbox. In fact, we unsubscribed over 1 million pieces of junk mail for our users and were able to do it through the digital delivery and presentment of postal mail.

We found even though they unsubscribed from volume, we can measure intent and intent is the holy grail for advertising. When we measured intent, we could know exactly what they wanted, what they preferred or not. That type of information is missing. That is why it is so unfortunate.

Mr. LYNCH. Reclaiming my time, all I am saying is want to empower the customer. The taxpayer is not involved. This is the postal customer that is picking up the tab. We don't give tax money to the Postal Service. They survive on the money they get from stamps.

I want to empower the customer so they don't have to go to any company, they can see their mail when it arrives at the regional postal center and click off on it if they don't want it delivered. That I think is constructive change, it is innovative change and will take us to a whole new world.

I think that would lower the cost and make it more efficient and improve the Postal Service.

I am beyond my time. Thank you for your indulgence, Mr. Chairman.

Mr. FARENTHOLD. Thank you very much.

Mr. Clay, did you have votes as well coming up?

Mr. ISSA. The gentleman from Missouri is always welcome to speak in this committee.

Mr. CLAY. Thank you, Mr. Chairman and Chairman Issa, I appreciate that.

In 2011, the Inspector General for the Postal Service released a two part report on the Postal Service's role in the digital age. Included in part two of the report was the idea that the Postal Service expanding into hybrid and diverse hybrid mail services.

Mr. Williams, can you briefly explain what the services and elaborate on why it may be beneficial for the Postal Service to expand into these areas?

Mr. WILLIAMS. We believe that the ability to print the letter at the point of delivery would keep a lot of the mail out of the system—the idea of sitting on transports and fuel and crowding through the sorting plants would be a very good idea. It allows var-

iation also among the regions where you could print different letters for different zip codes.

Mr. CLAY. In your opinion, has the Postal Service put the cart before the horse by closing the distribution centers before they have a real plan to go forward to lessen the volume of mail?

Mr. WILLIAMS. I do. I think there is excess capacity inside those sorting centers but I don't believe it should, as you said, spring out in advance of seeing what the effect and impact of this.

Picking the timing for innovation is devilishly difficult and if we present something that isn't immediately embraced and we have burned the ships behind us and closed off the possibility of using the other network, it would be a very serious mistake.

Mr. CLAY. The hybrid and reverse hybrid mail service sound similar to the business model of one of our witnesses here today. Mr. Davis, your company, Outbox, was a fee-based service that gave customers a choice to bypass physical mail, correct?

Mr. DAVIS. Correct.

Mr. CLAY. If I am correct, your business model was dependent on the participation of the Postal Service, its infrastructure and customer participation, correct?

Mr. DAVIS. Correct.

Mr. CLAY. This year, Outbox announced that it would terminate its digital mail operation through a bar code. You informed customers why Outbox was shutting down its service. In the post signed by you and your business partner, you mentioned that initial tests with the Postal Service showed positive signs of success and operational simplicity but the deal didn't work out. Is that correct?

Mr. DAVIS. Absolutely.

Mr. CLAY. Additionally, you described your visit with the Postal Service's senior leadership as a Mr. Smith goes to Washington moment where senior leadership made it clear they would never participate in any project that would limit junk mail and that they were immediately shutting down your partnership. Is that correct?

Mr. DAVIS. Correct.

Mr. CLAY. Mr. Davis, in developing your business plan, were you aware that advertising mail represented a significant portion of the Postal Service's volume and revenue?

Mr. DAVIS. Yes.

Mr. CLAY. As a self sustaining entity, that has to generate revenue, were you aware that the Postal Service has a right to choose who it works with it based on its bottom line?

Mr. DAVIS. Absolutely.

Mr. CLAY. Mr. Cochrane, the Postal Service has been quiet on this issue. Is there anything you would like to add?

Mr. COCHRANE. The concept of people collecting mail and digitizing has been out there for almost ten years. There are other companies in that space. The approach is one where people sign up and go to what we call commercial mail receiving agencies. It is very common and happens in buildings all over town here. It is very common in the business arena in New York and Washington.

I think the challenge was that Outbox approached it a bit differently. They didn't want to have a commercial mail receiving agency, so that required them to go to the mailbox and pick it up.

There are companies out there sustaining that business model and providing a digital image of mail pieces for their clients on a day to day basis.

Mr. CLAY. Thank you.

Mr. Chairman, although I commend Mr. Davis and his company for the innovative solution, I think it is unfair to use this hearing to criticize the Postal Service for not being innovative and at the same time insist that it operate with a business mind set which is what it was doing in this case.

In addition, I ask for unanimous consent to enter into the record an article dated May 8, 2014 from the Heritage Foundation, the Foundry Blog, entitled, Why the Postal Service was right to side with junk mail over Outbox.

Mr. FARENTHOLD. Without objection, so ordered.

Mr. ISSA. Would the gentleman yield?

Mr. CLAY. Yes.

Mr. ISSA. I would like to side with you in this case, surprisingly, that although it is a shame to see a for profit entity close because they are not making a profit, I do agree with you that when this is an innovation that should be on the list of innovations to the Postal Service because it falls squarely within their basic requirements, just as Stamps.com is an innovation the Post Office ignored, to their peril, one of the strange things you and I agree on is at a minimum, the Post Office ought to do all of its core jobs of revenue and revenue saving first, that the most important innovation in the company is to do the job they are paid to do well and innovatively.

I think we have two witnesses here today from two for profit companies, one that is still thriving and one that isn't in this space, but they both are core functions of the Post Office that suffer from neglect.

I share with you that in the Comprehensive Postal Reform Bill, we increase the innovation fund specifically because we hope the Post Office will innovate within its core in addition to outside its core.

Mr. CLAY. In your opinion, does it cry out for a public-private partnership?

Mr. ISSA. I believe there are some core businesses the Post Office can and should own. They may use private enterprises as their contractors but I will say on the record here today that the job that Outbox proposed, if embraced by the Post Office as a core function, could far exceed the benefit.

I think Mr. Lynch, although he disagrees with everything I stand for apparently in postal reform, including I have become a Luddite from the electronics industry, that is a first for my colleagues, but the fact is that when he talks about digital delivery in Switzerland being inevitable, he talks about a version of Mr. Davis' business plan that Switzerland has gotten ahead of us on.

He seemed to muse that it would be bad for the base that he so much often cares about, but the fact is he is right. He is absolutely right that these innovations are either going to happen within the postal system or the postal system is going to miss it altogether and then be fighting for, as you said, its core right to decide not

to participate for the business that may already have gone a long way.

I couldn't agree with you more that your point was right on.

Mr. CLAY. Mr. Chairman, I think I may be having an out of body experience by agreeing with you so much lately.

I see my time is up. I yield back.

Mr. FARENTHOLD. Thank you very much.

We will kind of get back to the regular order here. I will go ahead and start with some of my questions.

Mr. Davis, I think most of us up here know the story of Outbox. You took your time to give a very passionate speech about innovation which I enjoyed listening to. Can you in roughly a minute or so tell us what Outbox did and what happened?

Mr. DAVIS. Absolutely. Outbox enabled our users to view their postal mail from anywhere, whether it is their I-phone or I-pad and they could tell us exactly what they wanted and what they did not want physically. It is a hybrid approach in that regard. Mr. Issa is correct in that.

This is a fabulous idea, it should be adopted by the Postal Service. We started testing it in Austin, Texas with the idea that we would ask forgiveness, so to speak, before we asked permission because the rules and regulations are so onerous. We did so with great fanfare and we were shut down in that meeting with the Postmaster General and the senior team.

In that meeting, we had a fundamental misunderstanding of who the customer is of the Postal Service. He said, your customer is not my customer. I said, Mr. General, what do you mean? He goes, my customer is the sender of mail that essentially pays me to place mail on the kitchen tables of every American every day.

While true, that is not where the inherent value of the Postal Service lies. The value lies with its connection with every single American.

It is my belief that large organizations and government of which the Postal Service is in part both, do not naturally tend to adopt innovation because it does disrupt them. It was my hope and my business partner's hope that we could test this on a small scale within the Postal Service but we were not allowed to.

The only way we can do this is that we have a safe harbor, something within the Postal Service that allows it to be disrupted on a small scale in localities around the country to test new ideas. As I mentioned, our ability to give customers choice led to higher value, led to increased understanding of who the real customer is, the American people, and led to value opportunities that were beneficial for the end user and beneficial for our company and ultimately, the Postal Service.

Mr. FARENTHOLD. Thank you very much.

Mr. Eidemiller, you mentioned that you were unable to get your product classified as a machinable flat and it actually became a parcel?

Mr. EIDEMILLER. Yes, it was unclassified as a machinable flat and magically became a parcel.

Mr. FARENTHOLD. That is more of a competitive service for the Post Office. I think you mentioned the amount of postage a flat would take?

Mr. EIDEMILLER. Yes. As an example, these are over the counter rates. This is a parcel rate for about four prescription vials, $2.22. This is the over the counter rate for a machinable flat which is $1.56.

Mr. FARENTHOLD. You went to UPS with your new redesign and you said they are delivering them for $1.00?

Mr. EIDEMILLER. They made an offer and put it on the table of roughly $1.00. The challenge we have, when I brought them up, is we are a young startup and we are investing our effort where we have opportunities to generate revenue.

While we think this is a great and wonderful idea, and year ago put a lot of emphasis in this, our business has pivoted slightly from that. After getting stonewalled by the Post Office a year ago, we got a lot of interest in bringing this to market and have had discussions with potential customers.

UPS won't officially put a contract on the table until they have volumes, units and costs. They say, yes, we believe in the package, we know we can do it for about $1.00. I asked them to submit something for the record; they declined to submit something for the record. We have it orally.

Mr. FARENTHOLD. I get the impression you would rather use the Postal Service?

Mr. EIDEMILLER. I would much rather use the Post Office. The Post Office has the infrastructure, the Post Office has the trucks, the Post Office can print this envelope into every mailbox in the United States, legally, safely, securely. UPS cannot do that; they put it on the doorstep. The volume is there, the business is there.

This is a regular standard business sized envelope. As a machinable flat, this is 90 cents over the counter, drugs by mail for 90 cents—$2.22. There are hundreds of millions of dollars on the table.

The only plausible reason I can see the Post Office has that we want it classified as this versus this is top line revenue because the top line revenue of a parcel is higher than a flat. In last year's strategic plan in 2013, I got this online, it says the Post Office makes three times more money on a flat than a parcel, three to one.

The Post Office actually makes more money, if these numbers are correct, doing this at lower cost than doing this, three times more revenue. Why? It is very simple. It is easy to automate. We have proven we can automate this. Their only case is that a square box in an envelope is not a machinable flat. It meets every mechanical requirement of a machinable flat. We have tested it. We volunteered to work with the Post Office to prove it.

Mr. FARENTHOLD. I appreciate it. I am not going to draw you into the debate of whether or not it is a secure delivery location for your parcel would be of benefit to your company or not.

Ms. Norton, we took two on your side of the aisle first, so if you don't mind, we will recognize Chairman Issa and then come back to you. Mr. Chairman?

Mr. ISSA. Thank you.

This is an interesting and I won't use out of body as Mr. Clay did but it is an interesting turn of events when Mr. Lynch called me a Luddite and says there is an inevitability that we are going to do what Switzerland has done.

Mr. Williams, I was madder than hell at your proposal. The idea that you are trying to be the Chief Innovation Officer and promoting banking within the IG's office is reprehensible. I am shocked that an Inspector General would go from the waste, fraud and abuse and inefficiency to promoting a specific agenda. I am disappointed.

Notwithstanding that, the Post Office has every right to propose innovative activities, including postal money orders and other items, some of which are historic within postal systems here and around the world.

However, I would hope that in the future you would be much more of an advocate, including people like Mr. Lynch who seem to find everything that reduces cost and allows the Post Office to break even and be more efficient for its customers, which as stated earlier, are the shippers.

Mr. Lynch is not here and he proudly said I would talk about him after he left. Mr. Lynch is never going to be my partner in anything that reforms the Post Office and makes it more efficient because that is going to reduce labor. I am sorry to say but I think he is a lost cause on that. Mr. Clay and others are not.

Let's go through the numbers quickly. Anyone can weigh in but Mr. Williams, you are a little bit in the hot spot here. The fact is six day to five day is in the shippers' best interest because it avoids another three cents per letter price increase and similar cost across the board, doesn't it?

Mr. WILLIAMS. I am uncertain as to the three cents but I understand the principle.

Mr. ISSA. Looking at about $2 billion versus what the exigent price increase did, I am just using those, but even if it only saved two cents or one cent, isn't it true that in fact a reduction in cost that allows you not to have an increase in price is more likely to avoid a reduction in volume because the shipper ultimately, although sensitive to how often you deliver, is most sensitive to price, isn't that true?

Mr. WILLIAMS. I think that is a very good proposition. We would need to find out what happens in reality but I certainly follow the train of thought.

Mr. ISSA. That is why the President has proposed that.

Mr. Lynch spent a lot of time bashing steel containers. From a factual standpoint, isn't it true that 91 million homes do not receive in the door delivery, while 37.8 plus or minus a million do? That is the curb-cluster including apartment and condo owners all over America, rural delivery and so on, that 91 million plus or minus do not get it to their door while only 37.8 do?

Mr. WILLIAMS. Yes, I agree that is the ratio.

Mr. ISSA. It is amazing for that ratio of more than two out of every three who were already part of the savings of not having to walk all the way to the door, simply less labor and that has been proven and calculated both by the Post Office and CBO, that labor savings for less than one third of Americans is billions of dollars and ultimately, question for you, those billions of dollars per year, a modest 15 million less than half of those being converted, is scored at over $20 billion in savings in cost to the Post Office.

Let's go through the numbers. Your customer is the shipper, you all agree to that, whether you like it or not. The shipper gets a value both in secure storage and in avoiding cost increases?

Mr. WILLIAMS. Correct.

Mr. ISSA. Where is the negative side, assuming it is a reasonable distance to go, that in fact these are secure storage and that individuals under the Americans Disability Act and the like will always be able to still get to the door delivery which is already based in law. If I am out in rural America but I am a shut-in, I can with no cost have the Post Office deliver to my door today, isn't that true?

Mr. WILLIAMS. It is true. We did a study as well on this topic. We saw that the amount of savings was enormous depending on whether you picked an extreme model or one that was very moderate, there was a huge amount of savings Your proposal, as I understand it, is on the moderate side.

Mr. ISSA. We toned it down a lot so that we could say that more than half of all Americans who now get it to the door, if they don't believe it is feasible for them, would not see a change in the first ten years. We believe that communities will over time rush to have secure storage, not necessarily clusterboxes of a dozen or more. Often there would be two or four in a cluster, just practically at your front door.

In fact, the ones we showed yesterday during our hearing, we specifically chose ones that ganged and a little larger because we want to be fair. In neighborhoods where it is hard to place a box, you will tend to have larger boxes while in suburban neighborhoods, it is pretty easy to do two or four at the curb between your neighbors.

Mr. WILLIAMS. Both for places where the model is difficult to fit and for people with special needs, we saw there were considerations for a waiver. We think that is important to do. We think it could be a real game changer and save an enormous amount of money.

We also want to know that those 37 million you pointed out aren't designed for people with special needs or special requirements or in places that are difficult to deliver. It is a historic accident.

We like the fact that this imposes a comprehensive plan for the placement of those and the facilitation for people with special needs and neighborhoods where the model can't work in the classic.

Eleanor, can I have your indulgence for about two more minutes? Thank you.

Mr. FARENTHOLD. Without objection.

Mr. ISSA. Thank you, Mr. Chairman.

A couple of quick things. Mr. Cochrane, I think from your end the fact is that the Post Office, in my opinion, is uniquely positioned to provide a postal digital delivery system as an additional feature for a fee to the shipper. In other words, you may not know where they live but if I can pay half as much for a digital delivery only system and then the digital deliverer can choose to have a paper copy delivered and I only pay if that paper copy is delivered, that is a feature that is a variation of Mr. Davis.

Technologically, from your experience, that is completely doable, isn't it?

Mr. COCHRANE. Yes, it is and we have a test right now in northern Virginia where all of our letter and flat sorting equipment involve cameras and we can take pictures of mail pieces. In our active test, you can get an email each day with an image of the actual pieces that we saw in our sorters that are going to arrive in your mailbox that day.

That doesn't get into opening envelopes and opening but it is a first step towards giving people a digital image of what is going to come to their box.

The risk side of that is what was discussed earlier. You have catalog mailers that are paying to get into the mailbox. If you are disrupting that to use the term, it does threaten a very extensive revenue stream for us.

Mr. ISSA. For example, these are hypotheticals, Mr. Williams, you have looked at a lot of the efficiencies. If a shipper says, I am going to give you x amount of these things and if a person declines, I am going to pay half as much. If the person accepts it, I am happy to pay the full fee. It could be a win-win. I could deliver you two-thirds as many pieces of printed material, it would be visible and usable by somebody digitally for half the price, while if delivered, let's say I want the coupon or whatever, I pay the full price.

Actually to your customer shipper, you are expanding his options. You could also have a no delete option that it must be delivered and he would pay full price. Those options aren't available today.

I am not in northern Virginia in my local home when I am in the District, it is in the District but I would love to know digitally everything that is proposed to be sent to me so that I know to expect it and if it doesn't come, and it is an invoice or something, I would be prepared to say, I have a lost piece of mail. There is a huge advantage to that.

I happen to be a to-the-door delivery in the District and I often get my next door neighbor's mail. I don't know what causes it but it happens pretty regularly. I take the mail and walk over and put it in my neighbor's chute.

The reality is my neighbor doesn't know that she is missing her mail until it shows up and I am gone, as you know, for weeks at a time because I don't actually live here. They lose three or four weeks sometimes of mail. If they had a digital picture, they would know they didn't get it.

All of these and more are what this hearing is about, Mr. Chairman. I want you to continue pushing for this innovation. Our broad proposal has additional innovation dollars.

I would like to close, Delegate Norton, with one thing. I was in business for more than two decades exclusively and then I have been in business very modestly by comparison over the last 14 years. The one thing I know about business is the top and bottom lines are not uniquely different.

You can increase top line but if it doesn't flow to the bottom line, it is of no value. You can make cuts and never get to a profit but it is a combination of the two.

The Post Office has its current volume, billions of dollars of excess inefficiency that we all know can cut. Innovation, in the case of your product and others, depends on efficient delivery and the more efficient it is, the more promising it will be for innovative products.

It amazes me that brown trucks go to any rural or suburban areas. I think they go there because they can't quite get as good a deal as they will be able to get from the Post Office if these innovations happen.

Ms. Norton, I appreciate the extra time. There is nothing more important to me than to try to have all of you be a part of it.

Mr. Davis, I appreciate your showing the way. My hope is even if they don't take it from you, they will in fact see the direction you gave as having value in some derivative product.

Thank you, Mr. Chairman.

Mr. FARENTHOLD. Thank you very much.

We now recognize the gentlelady from the District of Columbia.

Ms. NORTON. Thank you very much, Mr. Chairman.

I must say I welcome this hearing on innovation in the Postal Service. I particularly welcome the private businesses who work with the Postal Service.

I have often wondered about the perpetual identity crisis we keep the Postal Service in. It is a little bit private or maybe mostly private, chained to the Federal Government whereas the essence of being a private business where the government doesn't give you anything and you can go out and build for yourself all arise.

Most of the downsizing that has been done in the Postal Service has been done by cuts. I would much prefer, as the Chairman just indicated, innovation to be the role to the future of the Postal Service. I don't believe there is any way out of that.

Frequently, I see on television an innovative tool that the Postal Service is using, and I say, wow. I hadn't become used to that as a kid growing up and yet I do see those. I would like to ask about some of those, the new products in particular, since some of you have been involved with those products.

One of the success stories has been the every door direct mail. I was interested that it apparently has helped the Post Office generate more than a billion dollars. Mr. Cochrane, is that correct?

Mr. COCHRANE. That is correct.

Ms. NORTON. Apparently this product has been a great success with the business community. I would like to know how the Postal Service understood that this was a product that would catch on with the business community and why it has caught on with the business community, and what they are doing to enhance a product that has had this success? Mr. Cochrane, are you the person who can best answer that?

Mr. COCHRANE. I am. Thank you for the opportunity to talk about a product that we are certainly very pleased with.

It is an innovative product that was created to really leverage technology in some way. Though it is a hard copy piece of mail, what we have done is facilitate the ability for a customer to go to our website and literally pick a neighborhood.

If you are a dry cleaner or restaurant, you can actually pick the neighborhood and the routes you want to see your piece of mail delivered to so you don't have to deliver it to an entire zip code.

You can pick the neighborhood you know your customers live in. It has mapping that allows you to click on the routes, look at the streets and highlight the streets you want the mail to be created.

There is a commercial version and a version that you can walk into a post office and pay right there at the point of service terminal, drop off the mail and we will deliver it in the next day or two.

Ms. NORTON. I take it you have a competitive advantage over your competitors with this particular service because of your own infrastructure? Do you have any competition with this service?

Mr. COCHRANE. With mail going into the mailbox, no, but there are maybe more sophisticated mailings, direct mail in particular, that place. I think that was some of the initial concern of our business partners, that this EDDM would force people to buy down from a more traditional mail piece.

Our findings are actually the opposite. It has created an on ramp where someone begins with the very simple EDDM product and morph themselves up into more sophisticated mailers and start seeing the value of mail. They get a creative agency, start working with the commercial printer and expand where they are sending mail.

It is really like a first step into mail in a very easy way that actually in many cases has helped mailers move into a much broader mail stream.

Ms. NORTON. Do they contract also where they send mail based on what they learn by going online?

Mr. COCHRANE. I think that is the issue, that they can pick where they want it to go to. It is a saturation type mailing when they pick a carrier route with 500 deliveries in that route will receive it.

Ms. NORTON. So it saves business money as well?

Mr. COCHRANE. Absolutely. Sometimes you will get a mail piece and it is from a dry cleaner three towns over, you might drive by five dry cleaners to get to the person that sent you the mail piece.

This becomes a lot more targeted. Neighborhood mail is a good way to describe it. It really focuses on the area you are trying to reach.

Ms. NORTON. The Post Office has had fair success collaborating with others. Mr. Everett, Newgistics developed a product with the Postal Service, correct?

Mr. EVERETT. We have worked extensively with the Postal Service.

Ms. NORTON. Did they reach out to you?

Mr. EVERETT. I wasn't with Newgistics when the initial meetings were held but my understanding is we had an idea, reached out to them and it was aligned with some of the product ideas they had as well.

Ms. NORTON. Mr. Weisberg, your company has successfully collaborated with the Postal Service, I understand?

Mr. WEISBERG. Yes, we have.

Ms. NORTON. Who reached out to whom in that one?

Mr. WEISBERG. We reached out to the Postal Service initially?

Ms. NORTON. Mr. Cochrane, do you find you are pursued by businesses like Mr. Weisberg's?

Mr. COCHRANE. It is very flattering and I think it is just recognition of the presence we have, the fact that we are at 153 million doors today.

I was part of the early conversations with Newgistics and they did reach out to us and say, we want to do something with returns. They shared their business model with us and we were thinking of something in the same vein, so we went to a pilot, created a product over at the regulator, a temporary product and went for a regular full time product as parcel return service which at the time, ten years ago, was really when e-commerce was starting to take off.

One of the real barriers to e-commerce was ease of returns and the studies in market research were showing that was the thing holding people back. It was in everyone's best interest, the Postal Service, the retailers, to help facilitate a more easy return. We were proud to partner with them and I think it is a great success story.

Ms. NORTON. Could I just ask Mr. Eidemiller?

Mr. FARENTHOLD. Sure.

Ms. NORTON. As I came in, you were describing difficulties with the Postal Service. Is it the case that you went to UPS instead?

Mr. EIDEMILLER. We spent over two years really believing the Post Office was the best solution. We still believe the Post Office is the best solution. They offer service that nobody else offers. At a certain point, being a fairly self funded business with limited amount of runway, you put your resources in areas that you believe in.

After reaching a dead end with the Post Office, we approached UPS and they said, great, we love the package, we know how many we can put on our plane, we will give you a great rate for it. They are talking about $1.00 from origin to destination, second day service at worse.

Ms. NORTON. Mr. Cochrane, do you have a response to that?

Mr. COCHRANE. I'd like to weigh in on it. Thank you for the opportunity.

The fact is that we have different automation. We have over 10,000 pieces of automation in our network. It is a very complex network as I said in my opening. We do delineate and differentiate letters from flat type mail, catalogs, magazines in particular, and parcels. It is important that they go into the distinct streams they are supposed to so that it is not creating problems on our machines.

That the boxes are inside an envelope doesn't necessarily make them a flat; it is a parcel and that is the reason why they were turned down to mail at flat rate because of the rigidity of the pieces and the need for these pieces to stay in the appropriate mail stream which is the parcel mail stream.

We would welcome customers shipping those packages as designed. I think it is an innovative design. The whole concept that it secures the bottle and it is tamper resistant I think is a nice value set for pharmaceutical companies. We deliver well over hun-

dreds of millions of pharmacy items on an annual basis. The issue is it is a parcel. At the end of the day, it has to be mailed as a parcel.

Mr. EIDEMILLER. May I speak?

Mr. FARENTHOLD. It is Ms. Norton's time.

Ms. NORTON. I think this dialogue is informative.

Mr. EIDEMILLER. May I offer rebuttal to his testimony?

Ms. NORTON. Yes, please.

Mr. EIDEMILLER. My background is material handling and automation. Our two partners came out of Electric Com which was purchased by Siemens.

The entire genesis around mpack was initially around their frustration with doing drugs by mail in a round bottle. They one day said, why don't we do it square. At the time they had done industrial automation at Columbia Records, BMG, the Record of the Month Club, cassettes. They were handling those 25 years ago at 300 pieces per minute, yet they couldn't automate around a vial through the mail.

We had a long term professional relationship with the folks at Siemens so when we started this process and came up with this mailer, the first thing we did because all of us come from an industrial automation background, we know what non-debatable means, we know what machinable means. I have built a hundred distribution centers in my life.

The first thing we did was to prove this with run through flats. We ran this through flats. We had a video we submitted with our application showing this running through the Siemens optum sorters in Ft. Worth before we ever submitted our package. We provided this with our submittal.

It passes every mechanical test of a machinable flat. It bends this way, it bends this access, it follows every mechanical test in the DML. It sorts on the equipment at 300 pieces per minute. We offered to retest at our expense, we have offered to change the mail piece at our expense. We want to partner with the Post Office. Hello, we have volume you can make money. Please work with us. I don't know what to do.

Mr. FARENTHOLD. Thank you very much.

We have gotten to everyone. I have a few more questions so we will do a quick second round of questions and give Ms. Norton some more time if she wants it.

Mr. FARENTHOLD. Mr. Williams, in some of the innovations you talked about, you mentioned a virtual PO box. Can you tell me what a virtual PO box is? At first blush, it sounds like what Mr. Davis was offering.

Mr. WILLIAMS. Perhaps they are related to one another. Let me explain what it is.

Today the Postal Service is limited in the number of post office boxes they can offer to our users. It is a small box and rigid so it is also limited in the number of things you could put in there.

The idea we examined for the virtual post office box would allow people to—we can talk about classes of customers—it allows the customer to open a box that has no dimensions. It could be delivered to an address in the United States that people apply for.

There are a lot of foreign customers that would love to buy U.S. goods but can't because they don't have a U.S. address. The virtual post office box would allow it to go there and that post office could combine it with other things going to that country and send it at a discounted rate. We think that would be good for commerce.

It would also provide for small businesses and small innovators the ability to almost operate their business out of that virtual PO box. It would be temporarily stored, the items could then be sent out as directed by that business.

Mr. FARENTHOLD. You also talked about print at the destination of mail in response to an earlier question. Didn't we try that with mail grams and didn't FedEx try it with a fax type service?

Mr. WILLIAMS. This is not something we have strongly advocated. We have followed its path more. It remains alive. It strikes me as a good idea and there are takers for it but this is also something I mentioned earlier in the meeting, picking the moment at which demand exists in this environment is very, very difficult. I would say it hasn't come in a strong compelling way to hybrid mail.

Mr. FARENTHOLD. I want to go to Mr. Weisberg for a second. You all are kind of a success story in working with the Post Office. Was UPS supportive when you started out and came with the product?

Mr. WEISBERG. When we initially started, it took a process of years of speaking with the Postal Service by us and other companies that wanted to do PC postage to convince the Postal Service to approve it and allow it to exist.

There were people within the Postal Service who were encouraging and there were others who were discouraging.

Mr. FARENTHOLD. Do you have any suggestions for how we could change the process of getting innovative products like Stamps.com to be adopted by the Post Office?

Mr. WEISBERG. We do think it would make sense to add some protections to companies that come with new innovations to the Postal Service to make sure the Postal Service doesn't unfairly compete and launch its own products compared to what those companies do. We do very much support the concept of using public-private partnerships and having private industry players be able to come up with the best solutions that work.

Mr. FARENTHOLD. The Postal Service is actually kind of competing with you with their quick to ship product. That has to be a bit awkward in that they are your regulator and your competitor.

Mr. WEISBERG. It is a very difficult position to be in when you invest a lot of time and effort in an industry into launching products and you are regulated by the Postal Service. You have to provide the Postal Service detailed information about how your products work and then they launch a directly competitive product. That is difficult.

Mr. FARENTHOLD. With respect to Outbox, Mr. Davis, one of the things a service like Outbox has the potential to offer is targeted ads. I am an avid Internet user and I will shop for some dress shirts online. All of a sudden just about every site I visit has an ad for dress shirts on it. Highly targeted advertising is valued by advertisers.

The Postal Service talks about advertisers not getting their product delivered but wouldn't a service like Outbox actually have more

value to advertisers? A random catalog, your best hope is something on the cover strikes somebody's interest in the few seconds between mailbox and recycle bin?

Mr. DAVIS. Absolutely. As I said earlier, intent spending, intent on brand affinity is the holy grail of all advertising so you can imagine a digital ad piece that is actually free to present so it is free to show that on a digital device to an end user and they can decide if they want to engage with that or not.

We did some interesting tests with Kind Bar and with Starbucks Via packets, small sample sized products where we would present digitally an offer, would you like to try this new flavor of Kind Bar. In some of our tests, we had as much as 50 percent engagement which is astounding for any digital advertising piece.

People would say yes, send this piece to me, I want to engage Kind Bar and I want to try this new product. We would deliver it to their front door the next day.

To give you an idea how much that is worth to a CPG, they average about $20 per sample product given to a new user of their product. There is an enormous amount of money currently being spent on sampling products. Right now they are untargeted. You see someone out in front of a grocery store or on the side of the road, here is a very powerful target tool.

Mr. FARENTHOLD. That advertising would be revenue to Outbox and not the Postal Service? Is there a model for something like this where the third party does it or is it something you develop the technology and sell it to the Postal Service and they do it? Was that kind of the feeling you got in your negotiations?

Mr. DAVIS. Right. Well it is hard to unpack such a complicated web of interested politics and business models and mandates. At the end of the day, there could be winners and winners. It does not have to be winners and losers.

It was our hope that if the Postal Service could not create this on their own or was too slow to do that, an outside third party company could develop it, spend private dollars to develop it and then either white label it or be a third party contractor with the USPS.

Mr. FARENTHOLD. Thank you very much.

They have called our vote series. We have a little bit of time before we have to leave if Ms. Norton has some more questions.

Ms. NORTON. Just briefly.

I am interested in what keeps the Postal Service from developing new and innovative products as a matter of course. We have spun them off as a private business and not always allowed them to act as a private business.

Are there any issues or impediments that stand in the way of the Post Office doing the usual work of seeking innovations, particularly given its unique infrastructure, Mr. Cochrane?

Mr. COCHRANE. I think part of the challenge is the current law that we operate under. It is restrictive.

Ms. NORTON. Speak a bit about that law. What about that law?

Mr. COCHRANE. As an example, it says the products we are allowed to enter are postal products and it kind of put a bit of a box around things we can do. If we are approached by somebody with an innovative idea, some of these things are against the law, as I stated in my opening comments. Some of the things we are working

on don't fit our model and some are just not legal in the current sense.

As an example, we have very restrictive privacy rules. We have a lot of data on what goes into the American household with things like IMB and for good reasons, there are privacy statutes that exist.

Unlike a lot of other private sector companies, we are not allowed to data mine that information. That is a restriction on our ability to market.

Ms. NORTON. That is a restriction that wouldn't be as controversial I think here. The Chairman seemed to buy into this restriction to postal products when he admonished I suppose Mr. Williams for daring to suggest that non-banking products might be suitable.

I disagree with the Chairman on that. It seems to me we have information that if you look historically for the first 60 years of the 20th Century, the Postal Service actually had a banking service used mostly by immigrants. There were savings accounts, limits on the amount of the savings accounts.

There are postal facilities where there are no banks. In fact, banks have pulled out of many neighborhoods because they do much more digital than the Postal Service does. I don't see what is wrong with non-banking services. This is what I meant when I opened my last question with it is a little bit private. It is like a little bit pregnant. You just cannot do it in a market economy.

Let me invite Mr. Cochrane and Mr. Williams to elaborate on some non-postal services that you think the Postal Service could enter into, thrive and fully compete with the private sector.

Mr. WILLIAMS. With regard to the financial services, you are correct that the Postal Service was in the banking business for a large number of years worldwide. Many rural posts provide financial services. It provides about 14.5 percent of their income which helps them to continue to provide universal access and reduces the overhead for the post offices that are out there.

We currently do provide financial services with money orders and other kinds of information services we do in remote areas for the customers. This idea was to update the money order into the digital age. We don't think it is good for citizens or for e-commerce to be cut off from one another.

You can't use money orders to engage in e-commerce. As a result, as many as 68 million adults are cut off from commerce and commerce is cut off from them.

It did look at what would happen if the U.S. Postal Service did as it used to do and as many other nations do today.

Mr. COCHRAN. I would just say not on the financial sector but the Postal Service is in a period of significant change in our business model. I think that is well documented. As mail declines, particularly single piece, first class, we have shifted to do more and more parcel delivery.

In the course of innovation, we have to take a look at ourselves and our network. We have a ubiquitous retail network. How do we use that in many ways to help us generate top line revenue.

The last mile we have discussed a lot today but there are more things we can deliver. Think about the fact we have 217,000 people out there today driving the streets of the United States, working

hard and delivering product for mailers and shippers. There is a robust network of processing centers and transportation that I think you need to further leverage.

Maybe the future grail is the one we talked about a lot today, the digital space. There are going to be places where the Postal Service needs to step forward and have a strong footprint in the digital space. In the information I sent in, we talked a bit about what we are doing with the government with FCCX to help authenticate.

There is a lot of opportunity for the Postal Service to continue to leverage the brand, the trust, the security and the world class network that we have. That is where our innovation is focused, to use that infrastructure to generate revenue and keep providing great service to the American people.

Mr. WILLIAMS. I do think it is probably important to add the law may be too restrictive and it might be good that you are looking at it, the 2006 law, but that law wasn't put in there to be mean spirited or hurt anyone. It was put in there to make sure the Postal Service doesn't drive the small businessman or innovator out of business.

The challenge today is enormous and it is from horizon to horizon. The Postal Service doesn't need to go in where it is going to harm private enterprise.

Ms. NORTON. I would certainly agree when it comes to small business but I do not agree that the Postal Service shouldn't harm competitors in the same business or in a live business. I think that is the whole point of competition in a market economy.

Mr. FARENTHOLD. Maybe that is a topic for a future hearing in this subcommittee as to where we can go and find the right balance allowing the Postal Service to increase revenue without using some of their advantages I guess would be the right word as a government entity to harm the private sector. That would be a great hearing. We may do that in the future.

I would like to thank our witnesses for being here. We were able to cover a very complex topic in a timely manner. I think we all have food for thought as to how we can move forward with modernizing and bringing new technologies to the Postal Service that are good for America.

Thank you all very much for your time.

We stand adjourned.

[Whereupon, at 10:40 a.m., the subcommittee was adjourned.]

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

THE DAILY SIGNAL

Why the Postal Service Was Right to Side With Junk Mailers Over Outbox

James Gattuso / May 08, 2014

Photo: William Thomas Cain/Getty Images

Unquestionably, the U.S. Postal Service must start acting like a business—and, as such, its decision to refuse to partner with start-up Outbox was a smart business call.

It is common knowledge the Postal Service must transform itself or die. With the Internet remaking how we communicate, the old business model based on physical delivery of messages written on pieces of paper called

letters needs to change. And, despite its Paleozoic reputation, even USPS knows change is necessary—that's what $45 billion in losses will do to you.

Sensing an opportunity, in 2011, two Capitol Hill staffers-turned-entrepreneurs Evan Baehr and William Davis decided they could help USPS transform its business by helping the mail go digital. The idea was simple: Scan incoming mail, for a fee, and let customers browse through their mail online. It looked a no-brainer—the USPS would save money – they claimed – and consumers could avoid having to open all that junk mail.

But the whole plan depended on USPS' cooperation, giving Outbox access to its customers' mail at convenient locations.

USPS said no. Outbox gamely tried to make the service work anyway, hiring what it called "unpostmen" to retrieve mail from customers' mail boxes to be scanned and e-mailed back. But this failed, and the firm closed earlier this year.

With a flurry of media last week, Baehr and Davis blamed their failure on the Postal Service's management. In one widely cited report, Postmaster General Thomas Donahoe was quoted as saying to the two: "You mentioned making the service better for our customers. But the American citizens aren't our customers—about 400 junk mailers are our customers. Your service hurts our ability to serve those customers."

So, the story goes, USPS used its "coercive monopoly powers" to shut down the fledgling operation.

But is this truly what happened?

Although the Postal Service is no paragon of free-market virtue, it's not the villain here. The statement about big mailers, if accurate, shows only that

the postmaster general is no politician. But that is something conservatives should celebrate, not scorn. USPS should be run as a business, not a government agency. And from a business perspective, Donahoe's call made sense.

First, Outbox's plan, while innovative, had serious question marks. How would it ensure security and privacy for its customers? How long would it take to scan each document? If only the outside is scanned would potential customers find it worthwhile?

Moreover, USPS used no "coercive powers" against Outbox. Its government-enforced monopolies on letter mail and on mailboxes was not used or threatened. Rather, the Postal Service merely declined Outbox's request that it open its facilities and processes to integrate Outbox into its operations.

It was an extraordinary request and one that any private business would have rejected under the circumstances. Like it or not, "junk mail"—or "standard mail" as it is known—is a huge element of USPS' business strategy. It has been an island of stability for USPS. Although standard mail represents only about a quarter of postal revenue, it is one of the few areas where business is not shrinking (much). Outbox's plan would be a virtual declaration of war USPS on its most important customers.

Asking the postal service to help undercut these customers would be like asking television broadcasters to help their viewers skip commercials more easily. It just wasn't going to happen. And if it had, postal losses would increase—along with the potential liability of U.S. taxpayers.

None of this means postal business models can't be changed or that little guys can't successfully challenge USPS. Finances and the continued growth of the Internet ensure flux for some time to come. But it also does not mean

every new business idea is a good one, nor that every start-up will be successful. That's as it should be.

The good news is that, so far, there have been no moves in Congress to force USPS to treat start-ups such as Outbox differently. In fact, there seems to be a growing consensus among policymakers that USPS should be allowed more freedom to act like a business and be subject to fewer political constraints, while rolling back the special advantages it enjoys as a government enterprise.

This won't be as headline-grabbing as a start-up taking on the world, but it is a free-market reform that conservatives—and all Americans—should cheer.

James Gattuso is a Senior Research Fellow in Regulatory Policy at The Heritage Foundation. His monthly column appears every second Thursday on The Foundry.

MAILPIECE DESIGN ANALYST
WESTERN NY DISTRICT-USPS

UNITED STATES
POSTAL SERVICE

June 17, 2011

Peter G Ashe
Vice President of Packaging Solutions
Tucker Printers
270 Middle Rd
Henrietta NY 14467-9312

Hello Peter,

The mailpieces you submitted for review has been approved as automated flats based on the findings by the Pricing and Classification Service Center. Please note the approved mailers below. It has been determined that the piece is uniform in thickness based on the enclosed tray. The tray provides a secured product area in one of the four corners to alleviate insert or item shift during processing.

The outer sleeve or envelopes contain the same vertical and horizontal scoring for the purpose of providing sufficient flexibility during processing. Please note that the piece may not exceed 12" x 15" x ¾" to qualify for flat-size rates.

The PCSC stated that items containing Hazardous, Restricted and Perishable Material such as "corrosive batteries" must meet standards noted in DMM 601.10.19.4. Further information regarding Hazardous Material may be obtained in Publication 52.

Project Number 10,087
Current CGX mailing consists of: outer mailer 14 1/2 x 8 3/4, inner tray 11 3/4 x 7 x 5/8
Tray to hold: up to (4) 3 x 4 ¼ x 9/16 plastic prescription containers.

Please note that changes to the approved mailers noted must be re-submitted for review. If you have any questions or if I may be of further assistance; please feel free to give me a call at 585-272-5716.

Sincerely,

Don Stuhler
Western New York
Mailpiece Design Analyst
United States Postal Service

Cc: Ronald Corcoran: Manager Business Mail Entry

1335 JEFFERSON RD RM 108
ROCHESTER NY 14692-9651
585-272-5716
FAX: 585-272-5870

m-pack
Systems, LLC
Vials • Automation • Compliance Tools
1991 Hilldale Drive
La Canada CA-91011
www.mPackSystems.com

January 15, 2013

Linda Meeh
Mail Piece Design Analyst
USPS
28201 Franklin Parkway
Santa Clarita, CA 91383

Ref: m-pack® Machinable Flat Mailpiece

Dear Linda,

Please find enclosed 3 types of packaging for our m-pack® vial. Each of these packages is designed to qualify as a machinable flat and sort through the USPS flats system efficiently and profitably. In use, the parcels will include barcode required to confirm with automation requirements.

The m-pack® vial was designed to replace the traditional round vial used for mail out pharmacy, which creates a non-conforming package that is difficult to sort , wastes cube in transport, crushes and the cap pops of in transit.

To qualify as a flat, the mail piece meets the following requirements:

1. The mail piece is less ¾" thick and less than 12" x 15" in width and length.
2. The mail piece flexes up to 45 degrees across the mid points vertical and horizontal axis.
3. The mail piece has a flat face.
4. Internal system maintains spacing and separation to prevent m-pack®s from shifting in their package.

We have tested one of the samples of packaging at Siemen's test and demo facility and the package sorts very well in the Optimum sorter. I've included a video of the mail pieces sorting successfully in this submission. Below you will find pictures taken from the video tests.

m-pack
Systems, LLC
Vials • Automation • Compliance Tools

Figure 1. Induction

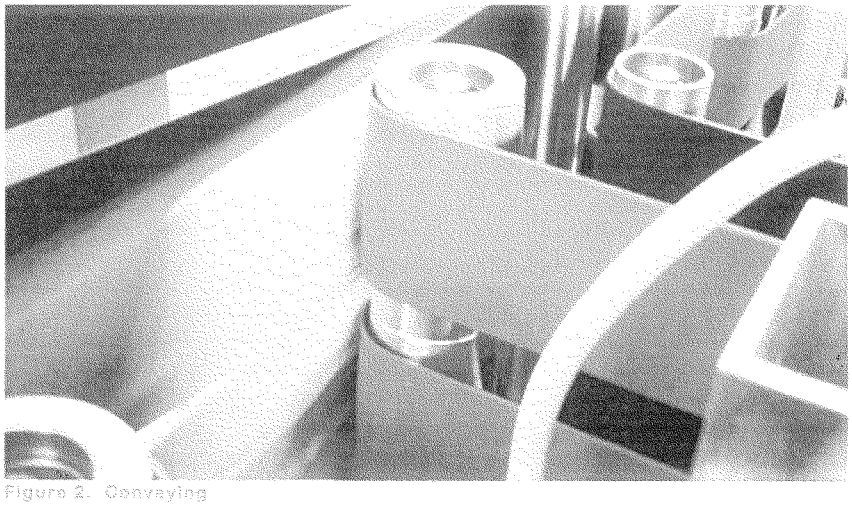

Figure 2. Conveying

m-pack
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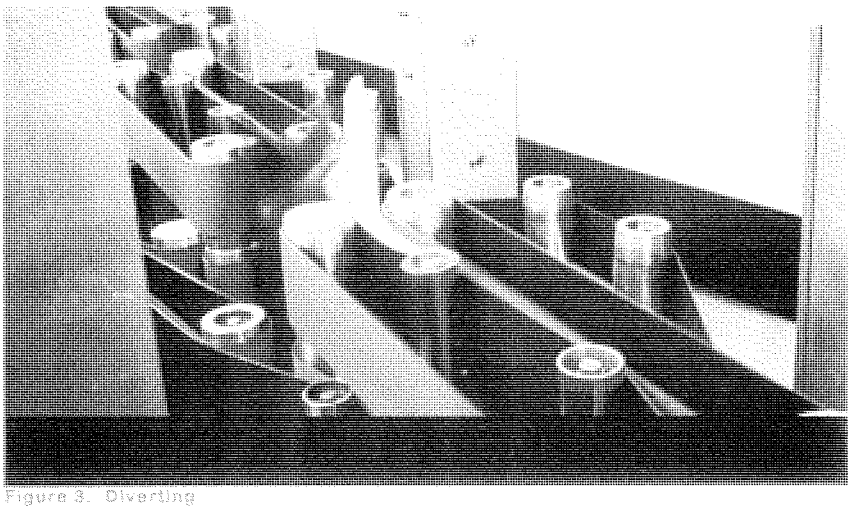

Figure 3. Diverting

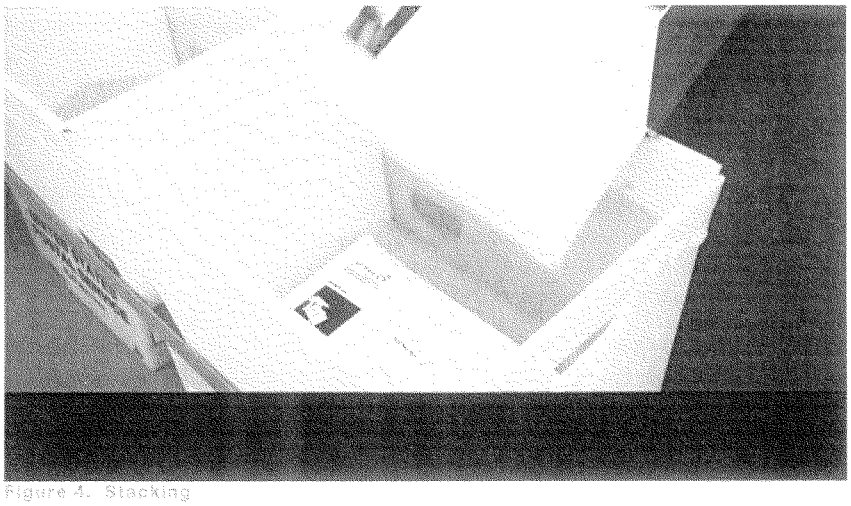

Figure 4. Stacking

As you can see from the pictures above, the product conveys and sorts extremely well in the flats automation.

I have also included a letter dated June 17th, 2011 that approved our previous version of this packaging that consists of a white outer sleeve

m-pack
Systems, LLC
Vials • Automation • Compliance Tools

envelope. I have included 5 samples that that packaging as well. Since this approval, we have made a change to the inner system of that envelope to reduce weight, more securely hold the m-pack®s inside and improve envelop flexibility for automated sorting.

The m-pack® is unmatched in terms of safety in transport. The m-pack® is virtually crush proof, and features an overlapping closure prevents pop offs common with a round pharmacy vial. Package integrity is further ensured thought a tamper evident label system that wraps around the m-pack® in use.

Enclosed are 5 pieces each:

- Mail Piece Design 1, Cold Seal 16 and 25 Dram Packages.
- Mail Piece Design 2, Tyvek Envelop 16 and 25 Dram Packages.
- Mail Piece Design 3, Cardboard Envelop 16 and 25 Dram Packages.
- Loose m-pack® 16 dram vial with tamper evident label.

The current market for mail out prescriptions is well over 500 million mail pieces per year. With the m-pack®, the UPSP can service this market profitably and safely.

Best Regards,

Patrick Eidemiller
Vice President
Technical Services
m-pack® Systems
peidemiller@mpacksystems.com
818.521.4391

Subject: RE: mpack Update
From: "Beeh, Linda A - Santa Clarita, CA" <Linda.A.Beeh@usps.gov>
Date: 2/27/13 2:10 PM
To: Patrick Eidemiller | m-pack Systems <peidemiller@mpacksystems.com>

Good Morning Patrick:

These samples are not eligible to be mailed at flat prices. These pieces are eligible to be mailed at parcel prices.

Sample A
Is 7-1/4" high by 10-1/4" long, greater than 1/4" but less than 3/4" thick. It weighs 4.0 ounces. Enclosed in the Tyvek 25 Dram envelope are four empty pill boxes that are contained in place by a plastic holder. The pill box is 3-1/2" X 3-1/2" X 1/2". The pill boxes are inserted into a flexible plastic ring holder that has die-cut edges and covers 1-1/4" of the top of the pill boxes. The boxes are placed side-by-side with the longer dimension being parallel with the longer dimension of the mailpiece.

The positioning of these boxes are divided into four sections, or quartered to allow the piece to pass the flexibility test that is outlined in *Domestic Mail Manual* (DMM) 101 (Retail Mail), or 301 (Commercial Flats).

Sample B
Is 8-3/4" high by 13-1/4" long (which includes selvage), greater than 1/4", but less than 3/4" thick. It weighs 4.6 ounces. Enclosed in the Cold Seal, 25 Dram envelope are four empty pill boxes. The edges of the envelope has a selvage of 1-/16" on the leading edge, 1-5/8" on the trailing edge, 1-1/8" on the top edge, and 1" on the bottom edge. The material on the inner envelope has a light adhesive to prevent the pill boxes from shifting. The pill boxes are 4-3/4" X 2-1/2" X 1/2". The pill boxes are inserted into a flexible plastic ring holder that has die-cut edges and covers 1-1/4" of the top of the pill boxes. The boxes are placed side-by-side with the longer dimension being parallel with the longer dimension of the mailpiece.

The positioning of these boxes are divided into four sections, or quartered to allow the piece to pass the flexibility test that is outlined in *Domestic Mail Manual* (DMM) 101 (Retail Mail), or 301 (Commercial Flats).

Sample C
Is 8-3/4" high by 13-1/2" long, greater than 1/4" thick, but less than 3/4" thick. It weighs 5.4 ounces. Enclosed in the Cardboard 25 Dram envelope are four empty pill boxes. The envelope could be configured to have corrugated edges, because the 3/4" from the each edge has perforations that allow the piece to be reconfigured to the shape of a box. The leading edge bears vertical perforation, and a crease that is 3/4" from the perforated edge, to allow the piece to be reconfigured. The sealing method on the flap shows the "peel-strip" method. The envelope has vertical and horizontal creases to create four quadrants. This allows for the piece to pass the flexibility test as long as the contents are placed within the quadrants. The pill boxes are inserted into a flexible plastic ring holder that has die-cut edges and covers 1-1/4" of the top of the pill boxes. The boxes are placed side-by-side with the longer dimension being parallel with the longer dimension of the mailpiece.

The positioning of these boxes are divided into four sections, or quartered to allow the piece to pass the flexibility test that is outlined in *Domestic Mail Manual* (DMM) 101 (Retail Mail), or 301 (Commercial Flats).

<u>These pieces are not eligible to be mailed at nonautomation or automation flat prices. These pieces are eligible to be mailed at the applicable parcel prices, depending if the pieces are prepared as First-Class Mail, or Standard Mail.</u>

Flat-size pieces must be flexible. Boxes—with or without hinges, gaps, or breaks that allow the piece to bend—are not flats. Tight envelopes or wrappers that contain one or more boxes are not flats. At the customer's option, customers may perform the following test on their own mailpieces. When a postal employee observes a customer demonstrating that a flat-size piece is flexible according to these standards, the employee should not perform the test (DMM 101.2.3 or 301.1.3)

Since the contents within the outer envelope are boxes, these pieces do not meet the DMM standard noted above, and must be mailed at the applicable parcel prices.

Flat-size mailpieces that do not meet the standards in 1.3 through 1.6 must pay applicable higher prices as noted in either 1.7a. or 1.7b. below. See DMM 301.1.7.

a. Flat-size pieces that do not meet flexibility, uniform thickness, or polywrap standards in 1.3 through 1.5 must pay these applicable prices:

1. First-Class Mail—parcel prices.
2. Periodicals—parcel prices.
3. Standard Mail—parcel prices.
4. Bound Printed Matter—parcel prices.

You can appeal this decision by sending a letter to the Manager of Business Mail, Michael Graybill.

Linda Beeh
Mail Piece Design Analyst
Pacific Area
661-775-6656
Fax 661-775-7114

When requesting a review of your proposed mailpiece design, please submit a pdf file WITH CROPMARKS and/or FOLD/PERF lines at 100% (no scaling).
Important: Please supply me with the as much of the specific design information as possible. Examples: What is the Processing Category (letter, flat or parcel), Class of Mail (First-Class, Periodicals, Standard etc.), Postage Payment Method (Stamps, Meter or Precancelled Stamps) and will the mail be prebarcoded?

As of January 28, 2013, Intelligent Mail Barcodes will be required on mail pieces claiming automation rates and on ALL Reply Mail pieces. A Mailer ID is required to use the Intelligent Mail Barcode. To apply, visit our Business Customer Gateway at https://gateway.usps.com/bcg/login.htm

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From: Patrick Eidemiller | m-pack Systems [mailto:peidemiller@mpacksystems.com]
Sent: Wednesday, February 27, 2013 9:17 AM
To: Beeh, Linda A - Santa Clarita, CA
Subject: mpack Update

Hi Linda,
Is there any way that we can get an update on our submission? We will be attending the Postal Forum in March and hope that our review would be completed by then.

Thanks
Patrick
--

m-pack
Systems, LLC
Vista • Automation • Compliance Tools
www.mPackSystems.com

m-pack
Systems, LLC
Vials • Automation • Compliance Tools
1991 Hilldale Drive
La Canada CA•91011
www.mPackSystems.com

Tuesday, May 21, 2013

Mr. Gary Reblin
Vice President New Products and Innovation
USPS
475 L'ENFANT PLZ SW RM 9431
Washington, DC 20260

Ref: m-pack® Flat Pharmacy Vial

Dear Mr. Reblin:

You are holding in your hand the m-pack® and the mailer that we've designed to ship prescription drugs via USPS. We demonstrated this package to Richard Posar at the Postal Forum last March.

This package is designed as machinable flat parcel and will sort through the USPS flats system efficiently and profitably. In use, the parcels will include barcode required to confirm with automation requirements.

The m-pack® vial was designed to replace the traditional round vial used for mail out pharmacy, which creates a non-conforming package that is difficult to sort, wastes cube in transport, crushes and the cap pops of in transit.

To qualify as a flat, our m-pack® mail prescription mail system meets the following requirements:

1. The mail piece is less ¾" thick and less than 12" x 15" in width and length.
2. The mail piece flexes up to 45 degrees across the mid points vertical and horizontal axis.
3. The mail piece has a flat face.
4. Internal system maintains spacing and separation to prevent m-pack®s from shifting in their package.

We have tested one of the samples of packaging at Siemen's test and demo facility and the package sorts very well in the Optimum sorter. I've included a video of the mail pieces sorting successfully in this submission. Below you will find pictures taken from the video tests.

m-pack Systems, LLC
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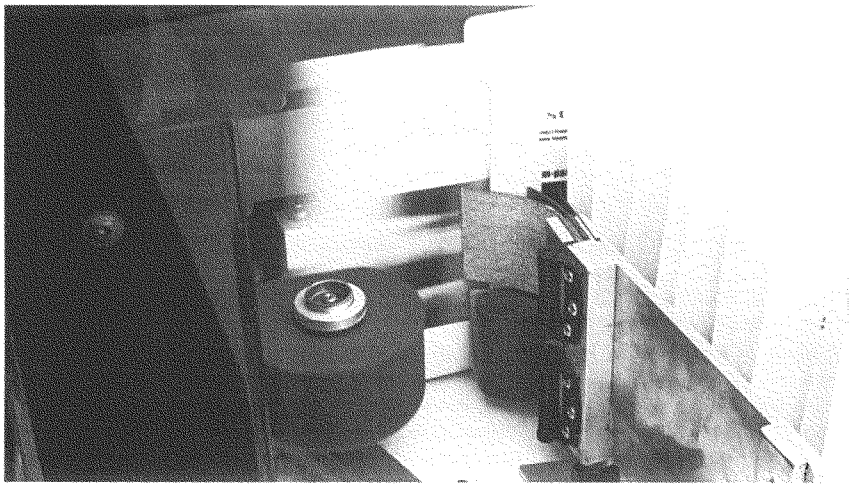

Figure 1. Induction

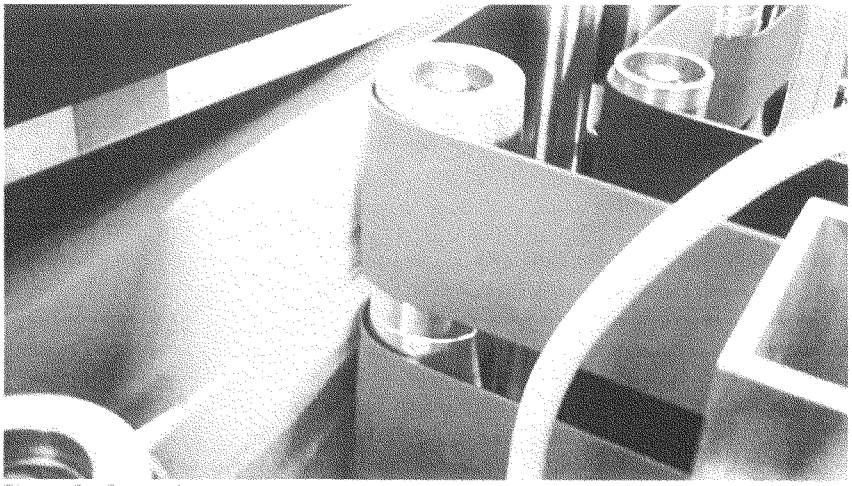

Figure 2. Conveying

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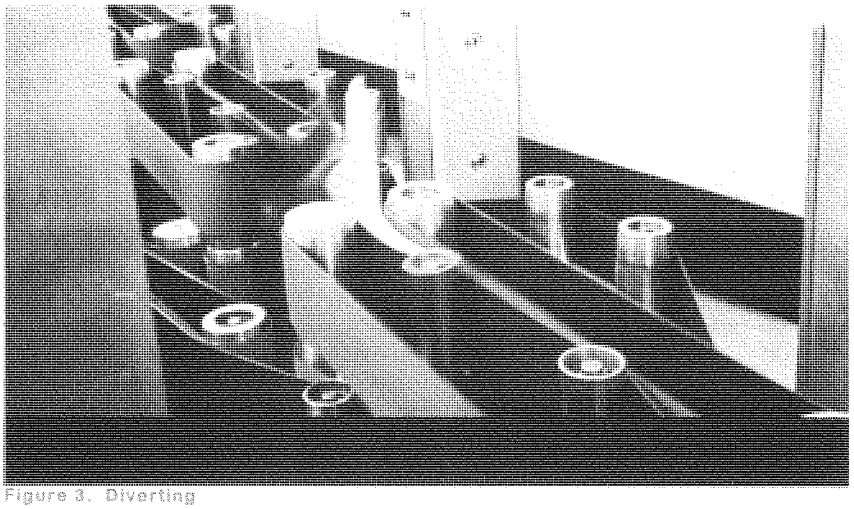

Figure 3. Diverting

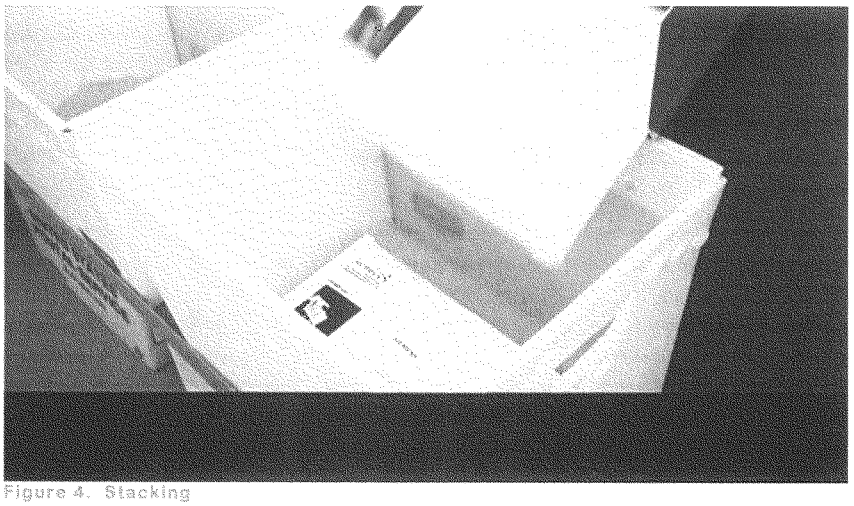

Figure 4. Stacking

As you can see from the pictures above, the product conveys and sorts extremely well in the flats automation.

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Mr. Gary Reblin
Page 4 of 4
May 21st, 2013

The m-pack® is unmatched in terms of safety in transport. The m-pack® is virtually crush proof, and features an overlapping closure prevents pop offs common with a round pharmacy vial. Package integrity is further ensured through a tamper evident label system that wraps around the m-pack® in use. We understand that nearly 6% of the prescription drugs processes through the mail pop open in transport, which presents a hazard to not only the end user, but across the entire USPS system.

In terms of security, unlike a round vial shipped in an envelope, the flat m-pack® mailing system fits through a mail slot so the package gets to the patient.

In a time where the Post Office is looking for areas to increase profitable mail volume, the m-pack® provides an opportunity to increase volume in prescription drugs, an area that is under served.

The m-pack® can be processed efficiently through flats automation, we've tested it. It works, and we are willing to test and prove the package that the m-pack® prescription mail system will through the mail system as we say it will. I've enclosed the video from our own testing. We will be happy to send additional samples for testing, and engage USPS flats automation vendors at our own expense in order to demonstrate and prove that the m-pack® can be processed efficiently, reliably, safely and profitably.

The current market for mail out prescriptions is well over 500 million mail pieces per year. With the m-pack®, the UPSP can service this market profitably and safely. That's $500 million in revenue through the existing infrastructure. I would like to meet with you and discuss how to champion this innovative offering in the Post Office and gain approval at a favorable rate compared to a conventional parcel.

Best Regards,

Patrick Eidemiller
Vice President
Technical Services
m-pack® Systems
peidemiller@mpacksystems.com
818.521.4391

Subject: RE: m-pack Mailer Video
From: "Barrett, Daniel J - Washington, DC" <daniel.j.barrett@usps.gov>
Date: 5/31/13 10:59 AM
To: 'Patrick Eidemiller | m-pack Systems' <peidemiller@mpacksystems.com>
CC: "Dobbins, Lizbeth J - Washington, DC" <lizbeth.j.dobbins@usps.gov>

Patrick--

I spoke with Lizbeth Dobbins, the executive who oversees our Mailing Standards organization nationally. Because you are seeking an assessment of eligibility, this activity should continue to be handled by her Mailing Standards organization. I understand you have had some history both locally, and with the Pricing & Classification Service Center in New York. I would leave any next steps to the determination of Ms. Dobbins.

Best regards,

Dan

Daniel J. Barrett
Manager, New Business Opportunities
(o) 202.268.7494
(c) 703.582.2010

From: Barrett, Daniel J - Washington, DC
Sent: Thursday, May 30, 2013 9:45 AM
To: Patrick Eidemiller | m-pack Systems
Subject: RE: m-pack Mailer Video

Thanks, Patrick. I will be in touch to let you know what I find out from the mailing standards folks.

Best,

Dan

Daniel J. Barrett
Manager, New Business Opportunties
(o) 202.268.7494
(c) 703.582.2010

From: Patrick Eidemiller | m-pack Systems [mailto:peidemiller@mpacksystems.com]
Sent: Thursday, May 30, 2013 9:13 AM
To: Barrett, Daniel J - Washington, DC
Subject: m-pack Mailer Video

Hi Daniel,
Thanks for the call this morning!

Here's the link to the video of our mailer sorting through the Flats Automation:
http://mpacksystems.com/VideoUSPS

I look forward to chatting later in the week.
Best,
Patrick

m-pack
Systems, LLC
Vials • Automation • Compliance Tools
1991 Hilldale Drive
La Canada CA•91011
www.mPackSystems.com

Friday May 31st, 2013

Mr. Lizabeth Dobbins
USPS
475 L'ENFANT PLZ SW RM 9431
Washington, DC 20260

Ref: m-pack® Flat Pharmacy Vial and Mailer Product

Dear Ms. Dobbins:

I'm following up regarding the m-pack® flat pharmacy vial and corresponding mailer product. This package is designed as machinable flat parcel and will sort through the USPS flats system efficiently and profitably. The m-pack® mailer requires significantly less cube in transit and fits the profile of a traditional envelope.

It is our belief that the m-pack® mailer should qualify for a reduced rate similar to a machinable flat instead of a parcel rate as this is a more efficient package to handle through the mail and will result in additional business flowing through the existing mail stream.

The m-pack® vial was designed to replace the traditional round vial used for mail out pharmacy, which creates a non-conforming package that is difficult to sort, wastes cube in transport, crushes and the cap pops of in transit.

To qualify as a flat, our m-pack® mail prescription mail system meets the following requirements:

1. The mail piece is less ¾" thick and less than 12" x 15" in width and length.
2. The mail piece flexes up to 45 degrees across the mid points vertical and horizontal axis.
3. The mail piece has a flat face.
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We have tested one of the samples of packaging at Siemen's test and demo facility and the package sorts very well in the Optimum sorter. I've

m-pack Systems, LLC
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included a video of the mail pieces sorting successfully in this submission. Below you will find pictures taken from the video tests.

Figure 1. Induction

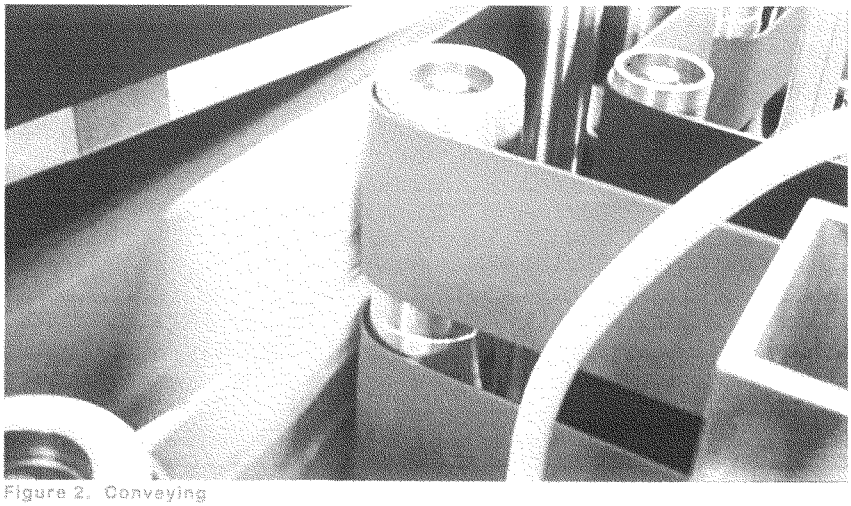

Figure 2. Conveying

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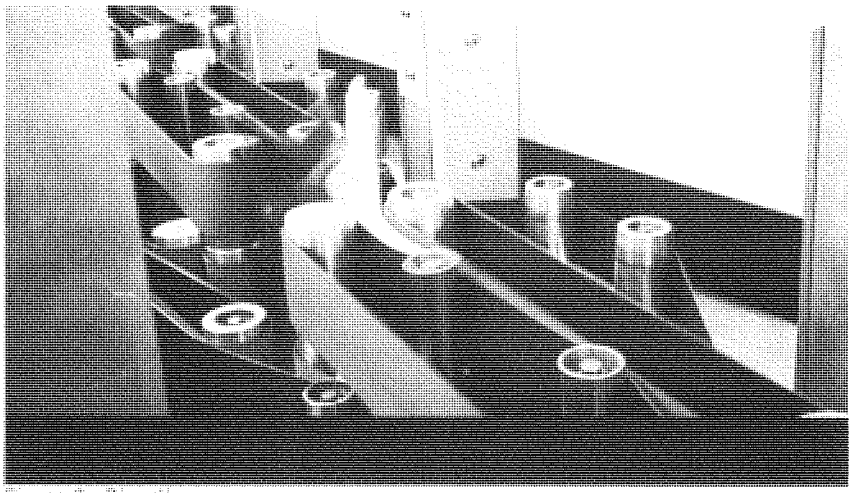

Figure 3. Diverting

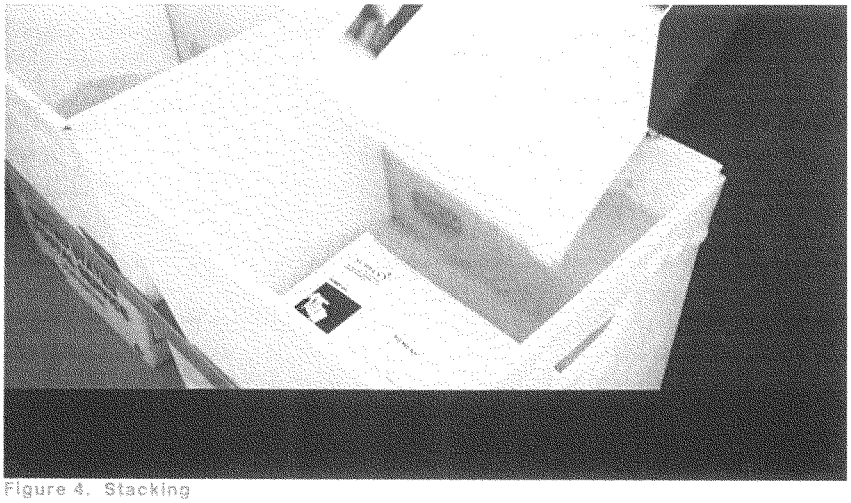

Figure 4. Stacking

As you can see from the pictures above, the product conveys and sorts extremely well in the flats automation.

m-pack Systems, LLC
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The current market for mail out prescriptions is well over 500 million mail pieces per year. With the m-pack®, the UPSP can service this market profitably and safely. That's $500 million in revenue through the existing infrastructure. I would like to meet with you and discuss how to champion this innovative offering in the Post Office and gain approval at a favorable rate compared to a conventional parcel.

Best Regards,

Patrick Eidemiller
Vice President
Technical Services
m-pack® Systems
peidemiller@mpacksystems.com
818.521.4391

Subject: Re: m-pack Flat Mailer Product
From: Patrick Eidemiller | m-pack Systems <peidemiller@mpacksystems.com>
Date: 6/4/13 8:28 AM
To: "Dobbins, Lizbeth J - Washington, DC" <lizbeth.j.dobbins@usps.gov>
CC: "Tricamo, Charles - New York, NY" <charles.tricamo@usps.gov>, "Moon, Cathy L - Washington, DC" <cathy.l.moon@usps.gov>, "Vance, Craig - Washington, DC" <gaylon.c.vance@usps.gov>

Hi Elizabeth,
Yes, I'm persistent. :-) We believe that we have a game changing package that the post office can handle very profitably using existing underutilized capacity. At a time when the USPS is loosing money and needing profitable business, how's that a bad thing?

I'm a little baffled on why our .2" thicker package is not being accepted as a flat as our previous version was approved on June 17th 2011 by Don Stuhler , the Western New York Mail Piece Analyst. I've attached a copy of that approval for your reference. Our previous version is identical in size, dimension and content other than the additional thickness. It's the same outer envelop, and the same contents inside. We've made some internal improvements to make the package more flexible and lighter weight which should make the package more automate able, not less.

Best,
Patrick

On 6/3/13 5:53 PM, Dobbins, Lizbeth J - Washington, DC wrote:

> Thank you==especially for your persistence. Unfortunately the piece with its current content qualifies as a parcel. If you do modify the content, please contact us again.
>
> ---
>
> **From:** Patrick Eidemiller | m-pack Systems [mailto:peidemiller@mpacksystems.com]
> **Sent:** Friday, May 31, 2013 12:53 PM
> **To:** Dobbins, Lizbeth J - Washington, DC
> **Cc:** Bill Negrini; Dick Lee
> **Subject:** m-pack Flat Mailer Product
>
> **Dear Ms. Dobbins,**
> **I'm following up about next steps to get our m-pack flat prescription mailer qualified as a flat light parcel with a favorable rate similar to a machinable flat as per today's correspondence from Dan Bennett. I've attached a letter outlining the case for approval and here is a link to a video of the mailer being tested is here: http://mpacksystems.com/VideoUSPS**
>
> **Please let me know where to send samples of our mail piece and advise me on next steps.**
>
> **Best,**

Patrick

-- Attachments: ----------

USPS_approval_prescription_bottles.doc 46.0 KB

Subject: Fwd: Prescriptions by State; Adherence Info
From: richard Lee <richardfpa@gmail.com>
Date: S/14/14, 9:21 AM
To: "Patrick Eidemiller | m-pack Systems" <peidemiller@mpacksystems.com>, Bill Negrini <bnegrini@mpacksystems.com>

More FYI

Richard Lee, Vice President
mpack Systems
an Affiliate Company of eNNOVEA
Mpack Compliance Vials • Pharmacy Automation

Mobile: 209 304-0908
Customer Care: 818-700-1500

---------- Forwarded message ----------
From: **Larry Lotridge** <lwlotridge@gmail.com>
Date: Wed, May 14, 2014 at 9:20 AM
Subject: Fwd: Prescriptions by State; Adherence Info
To: richard Lee <richardfpa@gmail.com>

Take a look at this report. With the added information on your system, you could argue that it increases the "Patient Education," but the report does push visits to the Pharmacy for that education. I'll let you know what I find out on Mail Order. Even if there is bad news on that front, I think pushing how much easier it is to add content and for patents to read the information, your system is a big pluss for Mail Order and should improve compliance.

---------- Forwarded message ----------
From: **Alex Adams** <AAdams@nacds.org>
Date: Wed, May 14, 2014 at 11:54 AM
Subject: RE: Prescriptions by State; Adherence Info
To: Larry Lotridge <lwlotridge@gmail.com>

No worries.

Also attached the NEHI report which has the statement: An estimated one third to one half of all patients in

the U.S. do not take their medications as prescribed by their

doctors

ALEX J. ADAMS, PHARMD, IOM
Vice President, Pharmacy Programs
aadams@nacds.org
P: (703) 837.4232
C: (419) 708.5186

National Association of Chain Drug Stores (NACDS)
1776 Wilson Blvd. Suite 200 Arlington, VA 22209

www.nacds.org
www.facebook.com/NACDS.org
www.twitter.com/@NACDS

From: Larry Lotridge [mailto:lwlotridge@gmail.com]
Sent: Wednesday, May 14, 2014 11:52 AM
To: Alex Adams
Subject: Re: Prescriptions by State; Adherence Info

Thanks Alex! You the man!

On Wednesday, May 14, 2014, Alex Adams <AAdams@nacds.org> wrote:

Larry,

Great to hear from you today!

Betsy sent along this resource. Kaiser publishes the number of Rxs filled by state. The most recent year of data is 2011. Link is here: http://kff.org/other/state-indicator/total-retail-rx-drugs/

Laura Miller indicated she may have more recent data, and if so, I will be sure to send it along.

With respect to adherence, I've attached one of the most cited reviews. It discusses the challenges in coming up with adherence rates, and notes that even in controlled clinicial trials, adherence rates are only 43-78%. NEHI has reported 1/3 to 1/2 of all patients stop taking medications over time, and I've seen the latter most commonly used.

Let me know if you need anything else.

Alex

ALEX J. ADAMS, PHARMD, IOM
Vice President, Pharmacy Programs
aadams@nacds.org
P: (703) 837.4232
C: (419) 708.5186

National Association of Chain Drug Stores (NACDS)
1776 Wilson Blvd. Suite 200 Arlington, VA 22209

www.nacds.org
www.facebook.com/NACDS.org
www.twitter.com/@NACDS

--- Attachments: ---

pa_issue_brief_final.pdf 383 KB

301 Physical Standards

Overview

1.0 Physical Standards for Flats

1.1 General Definition of Flat Size Mail

Flat-size mail must have the following characteristics:

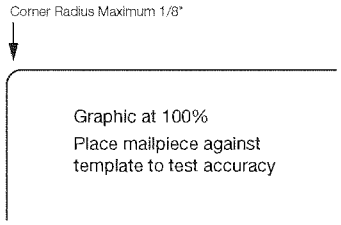
a. Be more than 11-1/2 inches long, or more than 6-1/8 inches high, or more than 1/4 inch thick, other than automation flats under 3.0 or as allowed for Standard Mail pieces with simplified addresses under 2.2.2.

b. Be not more than 15 inches long or more than 12 inches high or more than 3/4 inch thick, except for:

1. Periodicals flats mailed under 707.26.0.
2. Polywrapped flats, with selvage that extends beyond the contents, up to a maximum length of 15-3/4 inches. The enclosed contents must not be longer than 15 inches. Also see 1.5.3.

c. Be rectangular with four square corners or with finished corners that do not exceed a radius of 0.125 inch (1/8 inch). See Exhibit 1.1c.

Exhibit 1.1c Maximum Corner Radius for Flat-Size Mailpieces



d. Be categorized as a catalog, if meeting the standards in 1.9.

e. Other size or weight standards may apply to mail addressed to certain APOs and FPOs, and mail sent by the Department of State to U.S. government personnel abroad.

1.2 Length and Height of Flats

The *length* of a flat-size mailpiece is the longest dimension. The *height* is the dimension perpendicular to the length. When determining the *maximum* height or length of a flat, include any selvage of polywrap material that may enclose the piece. When determining the *minimum* height or length of a flat, do not include the selvage of any polywrap material that may enclose the piece. Also see 1.5.3.

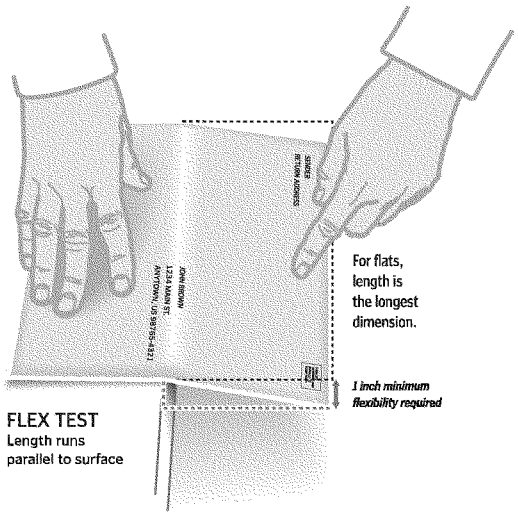
1.3 Minimum Flexibility for Flat-Size Pieces

Flat-size pieces must be flexible. Boxes—with or without hinges, gaps, or breaks that allow the piece to bend—are not flats. Tight envelopes or wrappers that contain one or more boxes are not flats. At the customer's option, customers may perform the following test on their own mailpieces. When a postal employee observes a customer demonstrating that a flat-size piece is flexible according to these standards, the employee should not perform the test. Test flats as follows:

a. All flats (see Exhibit 1.3a):

1. Place the piece with the length parallel to the edge of a flat surface and extend the piece halfway off the surface.
2. Press down on the piece at a point 1 inch from the outer edge, in the center of the piece's length, exerting steady pressure.
3. The piece is *not* flexible if it cannot bend at least 1 inch vertically without being damaged.
4. The piece *is* flexible if it can bend at least 1 inch vertically without being damaged and it does not contain a rigid insert. No further testing is necessary.
5. Test the piece according to 1.3b or 1.3c below if it can bend at least 1 inch vertically without being damaged and it contains a rigid insert.

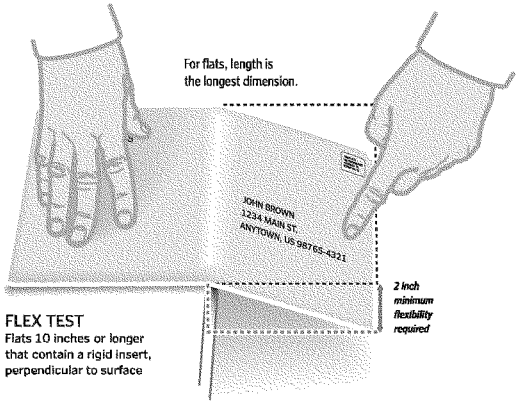
Exhibit 1.3a Flexibility Test—All Flats



b. Flats 10 inches or longer that pass the test in 1.3a and contain a rigid insert (see Exhibit 1.3b):

1. Place the piece with the length perpendicular to the edge of a flat surface and extend the piece 5 inches off the surface.
2. Press down on the piece at a point 1 inch from the outer edge, in the center of the piece's width, exerting steady pressure.
3. Turn the piece around and repeat steps 1 and 2. The piece is flexible if both ends can bend at least 2 inches vertically without being damaged.

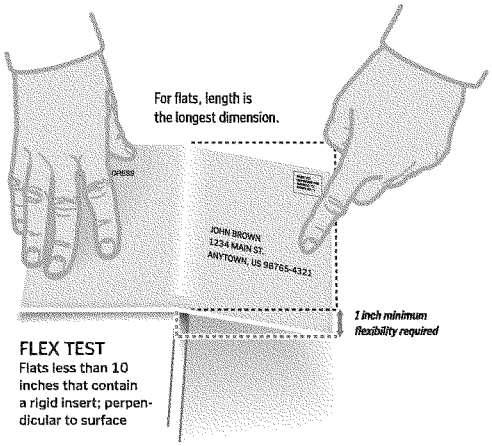
Exhibit 1.3b Flexibility Test—Flats 10 Inches or Longer



c. Flats less than 10 inches long that pass the test in 1.3a and contain a rigid insert (see Exhibit 1.3c):

   1. Place the piece with the length perpendicular to the edge of a flat surface and extend the piece one-half of its length off the surface.
   2. Press down on the piece at a point 1 inch from the outer edge, in the center of the piece's width, exerting steady pressure.
   3. Turn the piece around and repeat steps 1 and 2. The piece is flexible if both ends can bend at least 1 inch vertically without being damaged.

Exhibit 1.3c Flexibility Test—Flats Less Than 10 Inches Long



1.4 Uniform Thickness

Flat-size mailpieces must be uniformly thick so that any bumps, protrusions, or other irregularities do not cause more than 1/4-inch variance in thickness. When determining thickness, exclude the outside edges (1 inch from each edge) when the contents do not extend into those edges. Also, exclude the selvage of any polywrap covering (see 1.5) from this determination. Mailers must secure nonpaper contents to prevent shifting of more than 2 inches within the mailpiece if shifting would cause the piece to be nonuniformly thick or result in the contents bursting out of the mailpiece. (see 601.3.3).

1.5 Polywrap Coverings

1.5.1 Polywrap Films and Similar Coverings

[1-27-13] Mailers using polywrap film or similar material on flat-size mailpieces (except pieces mailed at high density, high density plus, or saturation prices) must use a product meeting the standards in 1.5. Film approved for use under 1.5.4 must meet the specifications in Exhibit 1.5.1 as follows:

a. If the address label is affixed to the outside of the polywrap, the haze property (property 2) does not apply.

b. Only products listed as approved on the USPS RIBBS Web site (*http://ribbs.usps.gov*) may be used on flat-size mailpieces.

Exhibit 1.5.1 Polywrap Specifications

Mailers who polywrap flats, except for saturation and high density pieces, must use polywrap that meets all of the properties in this exhibit, except under 1.5.1b.

PROPERTY	REQUIREMENT	TEST METHODS IN USPS T-3204	COMMENT
1. Kinetic Coefficient of Friction, MD			
a. Film on Stainless Steel with No. 8 (Mirror) Finish	<0.45	USPS-T-3204 Section 4.5.2	
b. Film on Film	0.20 to 0.55	USPS-T-3204 Section 4.5.1	
2. Haze	<70	USPS-T-3204 Section 4.5.3	Affixing address labels to outside of polywrap is an alternative to meeting this requirement.
3. Secant Modulus, 1% elongation			
a. TD	>50,000 psi	USPS-T-3204 Section 4.5.4	
b. MD	>40,000 psi	USPS-T-3204 Section 4.5.4	
4. Nominal Gauge	>0.001 in	USPS-T-3204 Section 4.5.5	
5. Static Charge	<2.0 kV	USPS-T-3204 Section 4.5.7	
6. Blocking	<15 g	USPS-T-3204 Section 4.5.6	To be conducted at 140 (±3.6°) degrees Fahrenheit.

1.5.2 Wrap Direction and Seam Placement

Wrap direction, seam direction, and seam placement must follow these standards:

a. The wrap direction must be around the longer axis (parallel to the length) of the mailpiece, with the seam parallel to that axis.

b. The polywrap over the address area must be a smooth surface to avoid interference with address and barcode readability. The preferred seam placement is on the nonaddressed side of the mailpiece. If the seam is placed on the addressed side, the seam must not cover any part of the address and barcode, postage area, or any required markings or endorsements.

1.5.3 Overhang

For purposes of the polywrap standards for overhang (selvage) only, the *top* edge of the mailpiece is one of the two longer edges of the piece. Any polywrap selvage must meet these standards:

a. When the mailpiece contents are totally positioned at the bottom of the polywrap, the overhang must not be more than 0.5 inch at the top of the mailpiece.

b. When the mailpiece contents are totally positioned to the left or to the right side of the polywrap, the overhang must not be more than 1.5 inches on the opposite side.

c. The polywrap covering must not be so tight that it bends the mailpiece.

1.5.4 Polywrap Certification Process for Manufacturers

Specification USPS-T-3204, Test Procedures for Polywrap Films describes exact test procedures and acceptable values for polywrap film characteristics. Independent testing laboratories may certify products for manufacturers who do not have the facilities or experience to conduct each of the test procedures. The specification includes a list of laboratories experienced in conducting these tests. Customers may obtain the test procedures by contacting USPS Engineering (see 608.8.1 for address) or on the USPS RIBBS Web site *(http://ribbs.usps.gov)*. Manufacturers must submit a letter, on their letterhead, indicating the value for each of the specifications in 1.5.1 for each polywrap film, to USPS Mailing Standards (see 608.8.1 for address). When the USPS receives the letter or certificate of conformance from an approved lab, films that meet the standards will be listed on *http://ribbs.usps.gov*. Manufacturers should follow this process before submitting the certification letter:

a. Test each film according to procedures listed in USPS-T-3204, *Test Procedures for Polywrap Films*.

b. Test each surface treatment separately. Manufacturers or approved labs may test the thinnest film of one product with identical surface treatment and characteristics. If the thinnest film meets the characteristics after being tested, the USPS will list the product as approved for all gauges of that product that also meet the gauge test.

1.6 Maximum Deflection for Flat-Size Mailpieces

[1-27-13] Flat-size mailpieces must meet maximum deflection standards. Flat-size pieces mailed at high density, high density plus, or saturation prices, and flats mailed at basic carrier route prices entered by the mailer at destination delivery units (DDUs), are not required to meet these deflection standards. Test deflection as follows:

a. For pieces 10 inches or longer (see Exhibit 1.6a):

1. Place the piece on a flat, straight-edge surface with the length perpendicular to the edge of the surface and extend the piece 5 inches off the edge of the surface. Test square-shaped bound flats by placing the bound edge parallel to the edge.

2. Place a flat 12-inch ruler (or other similar flat object 12 inches or longer) on top of the mailpiece with the length of the ruler parallel to the edge of the surface and as close to the edge as possible so that the 5-pound weight (see 1.6a3) does not extend past the edge.

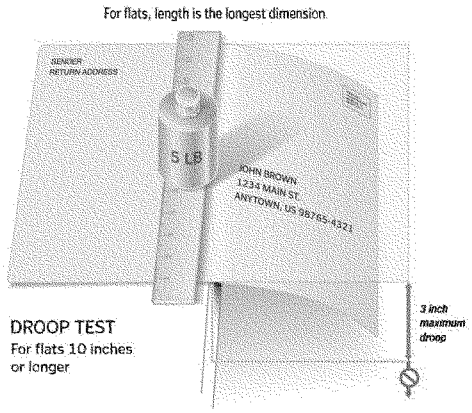
3. Place a certified 5-pound weight on the center of the ruler to hold the piece in place.

4. Determine the vertical deflection in inches.

5. Turn the piece around 180 degrees and repeat the process.

6. The piece is mailable as a flat if it does not droop more than 3 inches vertically at either end.

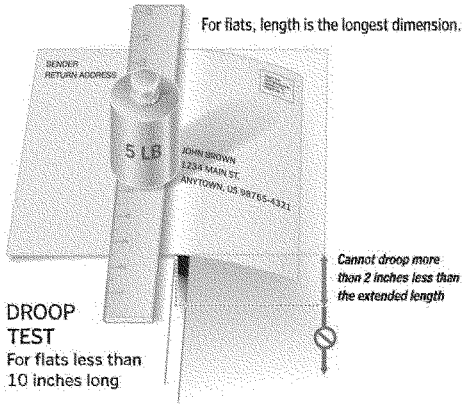
Exhibit 1.6a Deflection Test—Pieces 10 Inches or Longer



b. For pieces less than 10 inches long (see Exhibit 1.6b):

1. Place the piece on a flat, straight-edge surface with the length perpendicular to the edge of the surface and extend the piece one-half of its length off the edge of the surface. Test square-shaped bound flats by placing the bound edge parallel to the edge.
2. Place a flat 12-inch ruler (or other similar flat object 12 inches or longer) on top of the mailpiece with the length of the ruler parallel to the edge of the surface and as close to the edge as possible so that the 5-pound weight (see 1.6b3) does not extend past the edge.
3. Place a certified 5-pound weight on the center of the ruler to hold the piece in place.
4. Determine the vertical deflection in inches.
5. Turn the piece around 180 degrees and repeat the process.
6. The piece is mailable as a flat if it does not droop more than 2 inches less than the extended length at either end. For example, a piece 8 inches long would be extended 4 inches horizontally off a flat surface. It must not droop more than 2 inches vertically at either end.

Exhibit 1.6b Deflection Test—For Pieces Less Than 10 Inches Long



1.7 Flat-Size Pieces Not Eligible for Flat-Size Prices

Flat-size mailpieces that do not meet the standards in 1.3 through 1.6 must pay applicable higher prices as noted in either 1.7a or 1.7b below.

a. Flat-size pieces that do not meet flexibility, uniform thickness, or polywrap standards in 1.3 through 1.5 must pay these applicable prices:

   1. First-Class Mail—parcel prices.
   2. Periodicals—parcel prices.
   3. Standard Mail—parcel prices.
   4. Bound Printed Matter—parcel prices.

b. Flats that do not meet deflection standards in 1.6 must pay the applicable prices as noted in Exhibit 1.7b. Under the column heading "eligibility as presented," flats will be considered to be presented as automation flats only if they meet all other eligibility standards for automation flats.

Exhibit 1.7b Pricing for Flats Exceeding Maximum Deflection
(see 1.6)

FIRST-CLASS MAIL AUTOMATION	
Eligibility as presented	*Eligibility with failed deflection*
Automation 5-digit flat	Presorted flat
Automation 3-digit	Presorted flat
Automation ADC	Presorted flat
Automation MADC	Presorted flat

FIRST-CLASS MAIL PRESORTED (nonautomation)	
Eligibility as presented	*Eligibility with failed deflection*
Presorted flat	Single-piece flat or presorted parcel

PERIODICALS OUTSIDE COUNTY	
Piece price eligibility as presented	*Piece price eligibilty with failed deflection*
Basic Carrier Route flat, if not entered at a DDU	Machinable 5-digit flat
Machinable barcoded 5-digit flat	Nonmachinable barcoded 5-digit flat
Machinable barcoded 3-digit flat	Nonmachinable barcoded 3-digit flat
Machinable barcoded ADC flat	Nonmachinable barcoded ADC flat
Machinable barcoded MADC flat	Nonmachinable barcoded MADC flat
Machinable nonbarcoded 5-digit flat	Nonmachinable nonbarcoded 5-digit flat
Machinable nonbarcoded 3-digit flat	Nonmachinable nonbarcoded 3-digit flat
Machinable nonbarcoded ADC flat	Nonmachinable nonbarcoded ADC flat
Machinable nonbarcoded MADC flat	Nonmachinable nonbarcoded MADC flat
Nonmachinable barcoded or nonbarcoded flat	Price claimed, if otherwise eligible

PERIODICALS IN-COUNTY	
Piece price eligibility as presented	*Piece price eligibility with failed deflection*
Basic Carrier Route flat, if not entered at a DDU	Nonautomation (or automation, if barcoded) 5-digit flat
Automation 5-digit flat	Nonautomation 5-digit flat
Automation 3-digit flat	Nonautomation 3-digit flat
Automation basic flat	Nonautomation basic flat

STANDARD MAIL	
Eligibility as presented	*Eligibility with failed deflection*
Basic Carrier Route flat, if not entered at a DDU	Nonautomation 5-digit flat
Automation 5-digit flat	Nonautomation 5-digit flat
Automation 3-digit flat	Nonautomation 3-digit flat
Automation ADC flat	Nonautomation ADC flat
Automation MADC flat	Nonautomation MADC flat
Nonautomation flat (all sort levels)	Nonautomation MADC flat

BOUND PRINTED MATTER	
Eligibility as presented	*Eligibility with failed deflection*
Carrier Route flat, if not entered at a DDU	Carrier Route parcel
Barcoded presorted flat	Presorted parcel
Nonbarcoded presorted flat	Presorted parcel
Nonbarcoded nonpresorted flat	Price as claimed, if otherwise eligible

1.8 Labels, Stickers, and Release Cards

1.8.1 Use

A label, sticker, or release card may be placed on a flat-sized mailpiece. Standard Mail flats with a label, a sticker, or a release card must meet additional standards in 343.2.5. These attachments may be:

a. A label or sticker less than 0.007 inch thick, other than repositionable notes affixed under 705.23.0, as follows:

   1. A permanent label or sticker (designed not to be removed or relocated) affixed directly to the outside of the mailpiece with permanent adhesive.

   2. A relocatable label, to be placed on the outside of, or on the contents of, a reply mailpiece. Labels must be affixed under 1.8.2 or 1.8.3.

b. Up to two release cards, each at least 0.007 inch thick and no more than 0.012 inch thick, when affixed according to 1.8.4 and 1.8.5.

c. On pieces mailed at First-Class Mail, Periodicals, Standard Mail, or Package Services prices, only if permitted by the applicable content and eligibility standards.

1.8.2 Pressure-Sensitive Label

Any pressure-sensitive label or sticker affixed directly to a mailpiece before mailing must have a minimum peel adhesion to stainless steel of 8 ounces/inch. This standard does not apply to pressure-sensitive labels provided by the USPS to mailers to label bundles for sortation levels.

1.8.3 "Sandwich" Label

A face stock/liner label ("sandwich" label) is a two-part unit with a face stock (top label) attached to a liner (bottom label) affixed to the mailpiece. The face stock must have a peel adhesion value of at least 2 ounces/inch with respect to the liner label and at least 8 ounces/inch when reapplied to stainless steel.

1.8.4 Flats with Attached Release Cards

Mailings of flat-size mailpieces with a release card attached to the outside of each piece must include 8 pieces, as part of the mailing, addressed to "USPS Engineering—Flat Mail Technology" with the attention line: "Release Card Sample", using the street address in 608.8.1. Flat-size mailpieces, with up to two attached release cards, must be between 6 and 12 inches (inclusive) high, between 8 and 15 inches (inclusive) long, between 0.02 and 0.75 inch (inclusive) thick as mailed, and meet the following conditions:

a. All flats must be at least 6 inches high, at least 8 inches long, and at least 0.02 inch thick. In addition, nonautomation and carrier route flats must have at least one dimension larger than one maximum letter-size dimension. A flat with two attached release cards must have a minimum cover thickness of 0.003 inch.

b. Enveloped flats must be made of paper with a minimum 60-pound book grade paper.

c. Window envelopes must have only one closed panel address window.

d. Bound flats must have a cover with a minimum thickness of 0.003 inches.

e. Release cards must meet the standards in 1.8.5.

1.8.5 Standards for Release Cards

One or two release cards, each at least 0.007 inch thick and no more than 0.012 inch thick, may be attached to the same side of a flat-size mailpiece, and also must:

a. Be rectangular, but allowed with finished corners having a radius of at least 1/8 inch up to 1/2 inch.

b. Be between 2 and 2-1/2 inches high, and between 3 and 3-1/2 inches long. A card may be affixed with either edge parallel to the length of the mailpiece.

c. Be affixed by machine to ensure adequate adhesion. Manually affixed attachments are not allowed.

d. Be affixed, on the address side of the mailpiece, a minimum of 4 inches from the bottom of an enveloped or card-type mailpiece or from the binding of a bound flat and must not interfere with the readability of the address, barcode, or postage information. Maintain a clear space of at least 1/4 inch from all other edges when a release card is on the address side. Maintain a clear space of at least 1/4 inch from all edges when a release card is on the nonaddress side of a mailpiece.

e. Be affixed to a liner (backing) and meet the following adhesion standards:

   1. Adhesive used to affix the backing to the mailpiece must have a peel adhesion of at least 2 pounds/inch to stainless steel with a 20 minute dwell time at 300"/minute at 90 degrees per ASTM test D3330F.

2. Adhesive used to attach the release card to the backing must have a peel adhesion of at least 1.5 ounces/inch to stainless steel with a 30 minute conditioning time, at 300"/minute at 90 degrees per ASTM test D3330F.

1.9 Catalogs

1. A catalog is a bound flat-sized mailpiece with at least 16 pages, meeting the criteria in 1.0. Catalogs provide a listing of products offered for sale arranged systematically and includes images, photographs or illustrations of the products, descriptive details, and prices. Catalogs must contain an order form, a phone number, or a web address to place orders and provides shipping options for the products offered for sale.

2.0 Physical Standards for Nonautomation Flats

2.1 First-Class Mail

These additional standards apply to First-Class Mail flat-size pieces:

a. First-Class Mail flats cannot exceed 13 ounces. First-Class Mail flats weighing more than 13 ounces are Priority Mail.

b. Flat-size pieces that do not meet the standards in 1.1 through 1.4 must be prepared as parcels and pay the applicable parcel price.

2.2 Standard Mail

2.2.1 Basic Physical Standards

These additional standards apply to Standard Mail flat-size pieces:

a. Each piece must weigh less than 16 ounces.

b. Flat-size pieces that do not meet the standards in 1.3 through 1.5 must be prepared as parcels and pay the parcel prices.

2.2.2 Dimensions for Standard Mail Flats with Simplified Addresses

[1-27-13] Standard Mail flats with simplified addresses for which saturation flats prices are paid and EDDM-Retail flats (see 140) must have at least one dimension that is greater than a letter-size maximum dimension as noted in 1.1a. The minimum thickness must be at least 0.007 inch up to a maximum of 0.75 inch. As an exception to the minimum length, flats with simplified addresses may have a length shorter than a letter-size maximum length, under all of the following conditions:

a. The length must be greater than 10.5 inches up to a maximum 15 inches.

b. The height must be at least 3.5 inches up to a maximum height of 12 inches, but the height must be no greater than the length.

c. If the piece is also entirely within letter-size dimensions under 201; the piece must bear an "EDDM" marking directly after the "ECRWSS" marking required in 302.3.2.1c.

d. When the piece is mailed as part of a saturation flats mailing under applicable conditions in 602.3.2.

e. Letter-size pieces that meet the size standards in 2.2a and 2.2b and that are addressed to rural routes may be mailed as letters or flats with simplified addresses at the mailer's option.

2.2.3 Cover Page and Protective Cover

If the piece is not completely enclosed in a mailing wrapper, then any protective cover or cover page must cover both the front and back of the host publication and extend to within at least 3/4 inch of the edge opposite the fold or binding.
Exception: Flat-size pieces may have short covers as provided in 3.4.2.

2.3 Bound Printed Matter

2.3.1 General Standards

These additional standards apply to Bound Printed Matter:

a. Flat-size pieces that do not meet the standards in 1.3 through 1.4 must be prepared as parcels and pay the applicable parcel prices.

b. Bound Printed Matter may not weigh more than 15 pounds.

c. Two or more flats may be mailed as a single piece if they are about the same size or shape or if they are parts of one article, if they are securely wrapped or fastened together, and if they do not together exceed the weight or size limits.

2.4 Media Mail

2.4.1 General Standards

These additional standards apply to Media Mail:

a. Flat-size pieces that do not meet the standards in 1.3 through 1.4 must be prepared as parcels.

b. No piece may weigh more than 70 pounds.

c. Two or more flats may be mailed as a single piece if they are about the same size or shape or if they are parts of one article, if they are securely wrapped or fastened together, and if they do not together exceed the weight or size limits.

2.5 Library Mail

2.5.1 General Standards

These additional standards apply to Library Mail:

a. Flat-size pieces that do not meet the standards in 1.3 through 1.4 must be prepared as parcels.

b. No piece may weigh more than 70 pounds.

c. Two or more flats may be mailed as a single piece if they are about the same size or shape or if they are parts of one article, if they are securely wrapped or fastened together, and if they do not together exceed the weight or size limits.

2.6 Express Mail, Priority Mail, and Critical Mail Flats

Mailers are encouraged, but not required to design and produce Express Mail and Priority Mail flat-size pieces under the general standards in 1.0 and the automation standards in 3.0. Critical Mail flat-size pieces (see 323) that do not meet the

standards for flats in 1.0 and 3.0 are not eligible for Critical Mail flats prices, but are eligible for Priority Mail Commercial Plus Flat Rate Envelope prices (volume thresholds apply).

3.0 Physical Standards for Automation Flats

3.1 Basic Standards for Automation Flats

Flat-size pieces claimed at automation prices must meet the standards in 1.0 and in 3.0, and the eligibility standards for the class of mail and price claimed. For automation flats, the size standards in 3.2 supersede the size standards in 1.1.

3.2 Additional Criteria for Automation Flats

3.2.1 Shape and Size

Each flat-size piece must be rectangular, except that flat-size mailpieces may have finished corners that do not exceed a radius of 0.125 inch (1/8 inch). See Exhibit 1.1c. The following minimum and maximum dimensions apply to First-Class Mail, Standard Mail, Periodicals (except under 707.26.0), and Bound Printed Matter pieces:

a. Minimum height is 5 inches. Maximum height is 12 inches.

b. Minimum length is 6 inches. Maximum length is 15 inches, except for polywrapped flats as allowed in 1.1.

c. For bound or folded pieces, the edge perpendicular to the bound or folded edge may not exceed 12 inches.

d. Minimum thickness is 0.009 inch. Maximum thickness is 0.75 inch.

3.2.2 Maximum Weight

Maximum weight limits are as follows:

a. For Critical Mail, 13 ounces.

b. For First-Class Mail, 13 ounces.

c. For Periodicals, 20 ounces.

d. For Standard Mail, less than 16 ounces.

e. For Bound Printed Matter, 20 ounces.

3.3 Prohibitions

3.3.1 Protrusions

Clasps, strings, buttons, or like materials, or other protrusions that impede or damage mail processing equipment are prohibited.

3.3.2 Staples

Staples must not be substituted for tabs or wafer seals on pieces in automation price mailings. As a binding method, staples may be placed in the fold or spine of a magazine or booklet-type or similar mailpiece if parallel with the bound edge, tightly and securely inserted, and not protruding to damage or interfere with mail processing equipment.

3.4 Tabs, Wafer Seals, Tape, and Glue

3.4.1 General

Although not required, mailpieces may be prepared with tabs, wafer seals, cellophane tape, or permanent glue (continuous or spot) if these sealing devices do not interfere with the recognition of the barcode, price marking, postage information, and delivery and return addresses. Cellophane tape may not be placed over the barcode or where any part of the barcode will be printed. Tabs or seals placed in the area on which any part of the barcode is printed must contain a paper face meeting the standards for background reflectance. Tabs, wafer seals, and tape must have a peel adhesion (shear strength) value of at least 15 ounces/inch at a speed of 12 inches/minute after application to a stainless steel plate; the test is to be conducted 10 minutes after the material is applied to the plate.

3.4.2 Short Covers

Flats may be prepared with a cover page or protective cover that is more than 3/4 inch from each edge if the cover page is secured with at least two tabs, wafer seals, or glue spots placed within 1 inch of the top and bottom edges of the cover page or protective cover.

3.5 Uniformity and Exterior Format

3.5.1 General

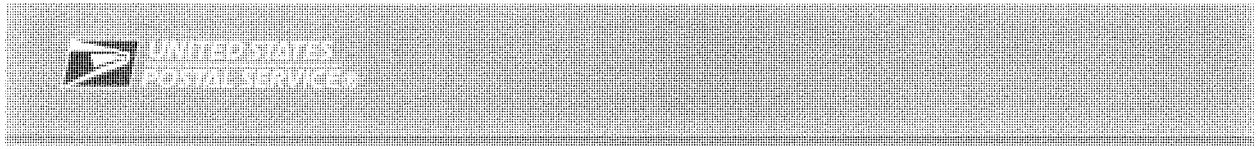
A flat-size mailpiece prepared and claimed at automation prices must be uniformly thick (see 1.4). Each flat-size mailpiece must have a smooth and regular shape and be free of creases, folds, tears, or other irregularities not compatible with automation equipment. The exterior surface must not have protuberances caused by prohibited closures; attachments (except as provided below); irregularly shaped or distributed contents; or untrimmed excess material from the envelope, wrapper, or sleeve.

3.5.2 Outside Attachment

Except as allowed under 1.8, an attachment to a flat-size mailpiece must be a single sheet, the same size as the cover. The attachment must be permanently, securely, and uniformly affixed to the front or back cover along a bound, folded, or otherwise closed edge, except as allowed under 1.8. Pieces claimed at a Periodicals price may bear attachments only if permitted by the applicable standards.

3.5.3 Booklet-Type Piece or Magazine

The contents of flat-size mailpieces prepared in sleeves or other wrappers must be sufficiently secure in the sleeve or wrapper to stay in place during processing. If material bearing the delivery address or barcode for the mailpiece is enclosed in a partial wrapper, that wrapper must be sufficiently secure to prevent the contents from shifting and obscuring the delivery address or barcode.



UNITED STATES POSTAL SERVICE

Five-Year Business Plan

2013

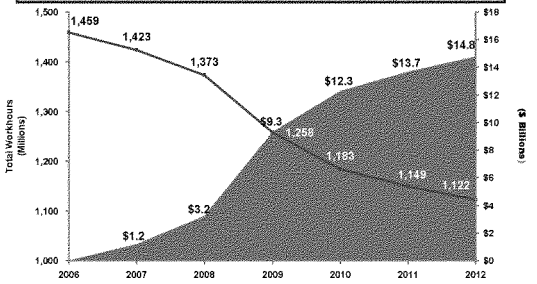
To listen to a recording of this presentation please visit:
https://usps.webex.com/usps/lsr.php?AT=pb&SP=EC&rID=16286242&rKey=f984854f1715e527

Continuous Efficiency Improvements Have Helped Mitigate Effects of Business Threats

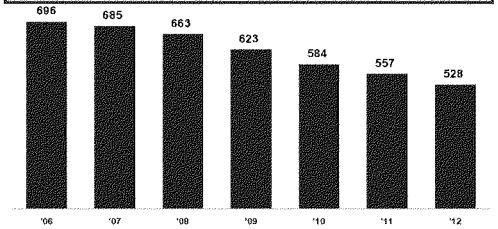
- U.S. Postal Service ranked as the most efficient postal service within the world's top 20 largest economies(1)
- The core of an $800 billion mailing industry in the U.S. that employs approximately 8 million people
- Delivers ~40% of world's mail

(1) Oxford Strategic Consulting report issued December 15, 2011

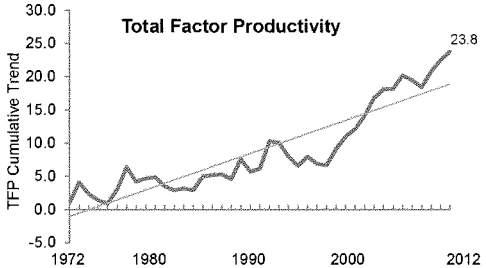
$15 Billion of Annualized Savings in the past six fiscal years with workhours reduced 23%



Career Employees – Reduced by 168,000 (24%) during last six fiscal years, without layoffs

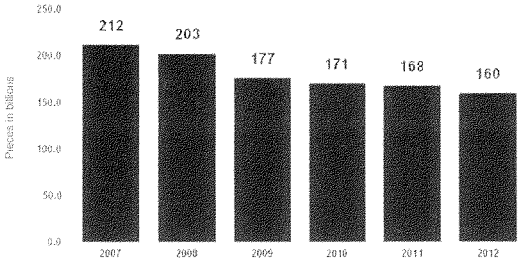


Postal Service is More Efficient Than Ever

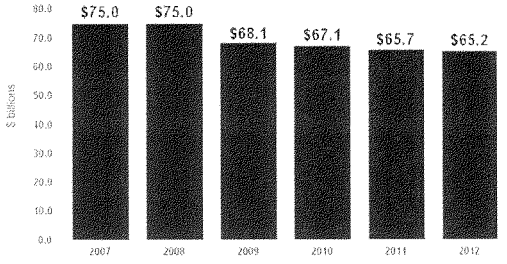


USPS Financial Position has Deteriorated in Recent Years

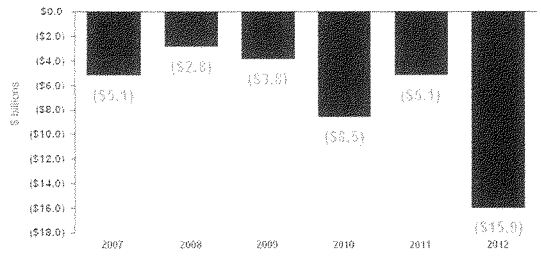
Mail Volume Decline: 25% from 2007 to 2012



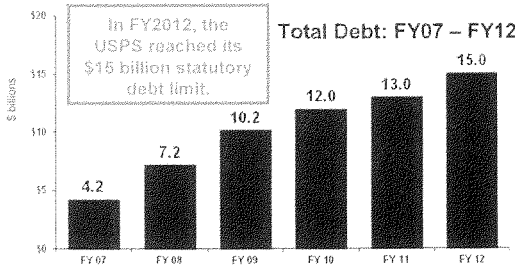
Revenue Down $10B (13%) from '07 to '12



$41B of Net Losses



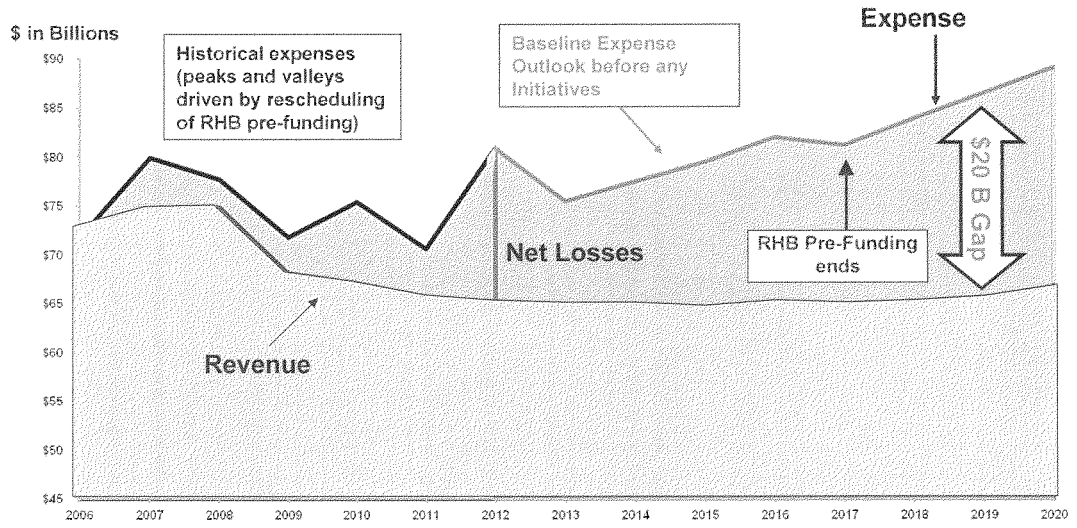
Borrowing Reserves Fully Used



Dire financial position requires urgent action to ensure continued mail delivery and to restore long-term self sufficiency.

We continue to execute the Plan…

Expenses Exceed Revenue and the Gap is Growing



Debt (1)	$4	$7	$10	$12	$13	$15	$18	$25	$31	$37	$48	$61	$77	$93
Debt (2)	$4	$7	$10	$12	$13	$15	$33	$45	$57	$70	$82	$95	$111	$127

(1) Assumes no USPS initiatives and no RHB prefunding paid in 2012 – 2017 ($34B).
(2) Assumes no USPS initiatives but with RHB prefunding paid 2012 – 2017 ($34B).

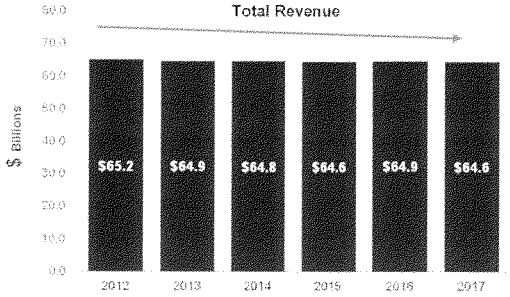
Restructuring Objectives

USPS's Business Plan continues to be based upon key restructuring objectives that benefit stakeholders:

- Preserve the ability to provide and finance secure, reliable and affordable universal delivery service
- Further economic growth and enhance commerce
- Implement comprehensive transformation for a long-term sustainable financial future
- Protect U.S. taxpayers (avoid Federal funding and appropriations)
- Maintain fairness to employees and customers

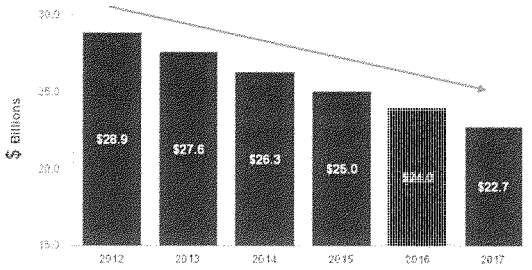
First-Class Mail Declines Will Continue Shipping & Packages Will Grow

Flat Revenue from 2012 to 2017

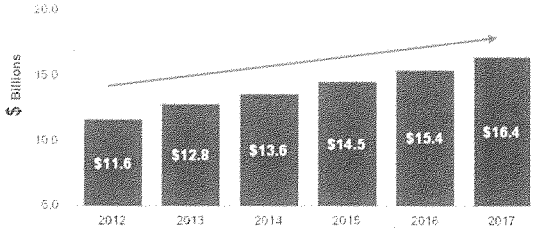


- Flat total revenue over next 5 years, net of volume declines and price changes.
- Loss of another $6 billion of First-Class revenue – results in loss of $3 billion of profit margin (at 53%) in 2017.
- Gain of $5 billion of Shipping/Package revenue provides $0.9 billion of profit margin (at 18%) in 2017.
- Decrease in profit margin in 2017 from these two major items results in loss of $2 billion in annual profitability.
- Volume/revenue changes in other mail classes have an insignificant effect on total profit margin.

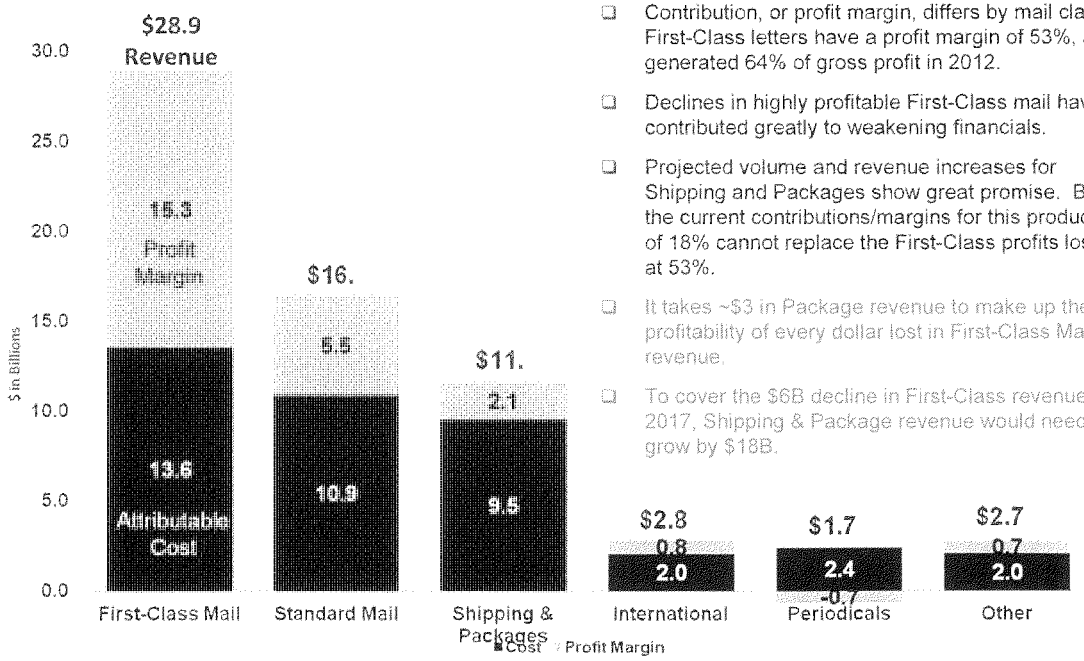
First-Class Decline: $6.2B from 2012 to 2017



Shipping / Packages Increase: $4.8B from 2012 to 2017



Shipping & Packages Profit Margin 1/3 of First-Class Mail in 2012



- Contribution, or profit margin, differs by mail class. First-Class letters have a profit margin of 53%, and generated 64% of gross profit in 2012.
- Declines in highly profitable First-Class mail have contributed greatly to weakening financials.
- Projected volume and revenue increases for Shipping and Packages show great promise. But the current contributions/margins for this product of 18% cannot replace the First-Class profits lost at 53%.
- It takes ~$3 in Package revenue to make up the profitability of every dollar lost in First-Class Mail revenue.
- To cover the $6B decline in First-Class revenue by 2017, Shipping & Package revenue would need to grow by $18B.

Revenue Growth Initiatives Will Accompany Cost & Efficiency Improvements

Enhance Mail - Create a multi-sensory experience

- Mobile on mail that interacts with consumers
- Mail with Audio/Visual features
- Hardcopy to digital that connects consumers to:
  - Website
  - Social media or
  - Purchase point

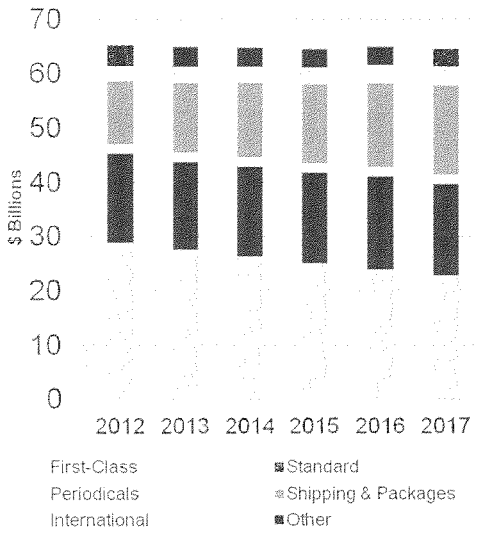
Package Growth

- Close competitive gaps to level the playing field:
  - Competitive pricing
  - New Priority Mail Features: Day-Certain and Insurance
- Build advantages by targeting new solution for ecommerce
  - Speedier service
  - Improved access that enables customers and consumers to use USPS services easier and more effectively.

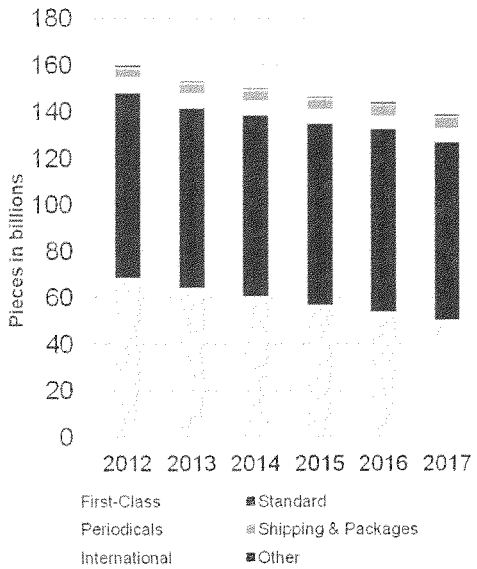
Digital Products - extend the USPS's current technology and data platform in ways that help better support the mailing industry and the American public

Revenue & Volume Forecasts

Revenue Forecasts



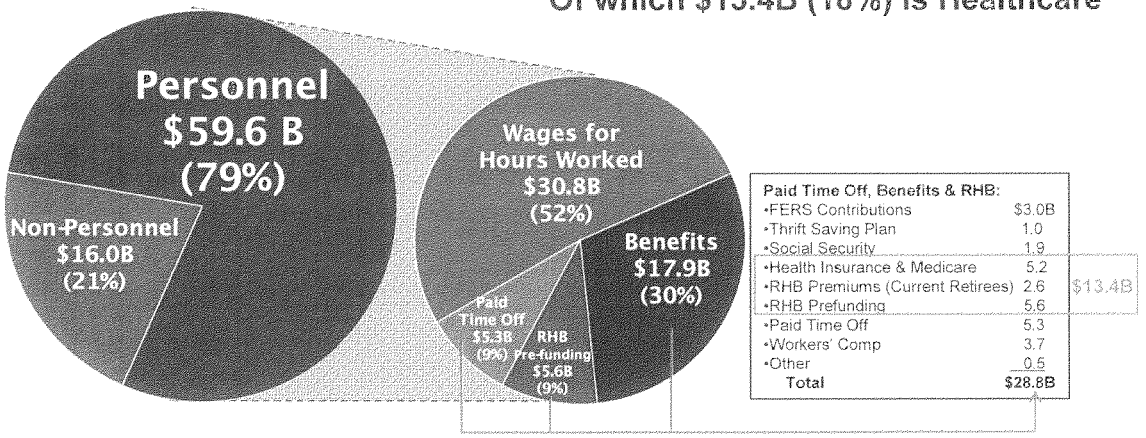
Volume Forecasts



Benefits Costs Contribute to High Personnel Costs

Baseline* FY2012 Total Costs: $75.6B

Of which $13.4B (18%) is Healthcare



Paid Time Off, Benefits & RHB:		
•FERS Contributions	$3.0B	
•Thrift Saving Plan	1.0	
•Social Security	1.9	
•Health Insurance & Medicare	5.2	
•RHB Premiums (Current Retirees)	2.6	$13.4B
•RHB Prefunding	5.6	
•Paid Time Off	5.3	
•Workers' Comp	3.7	
•Other	0.5	
Total	$28.8B	

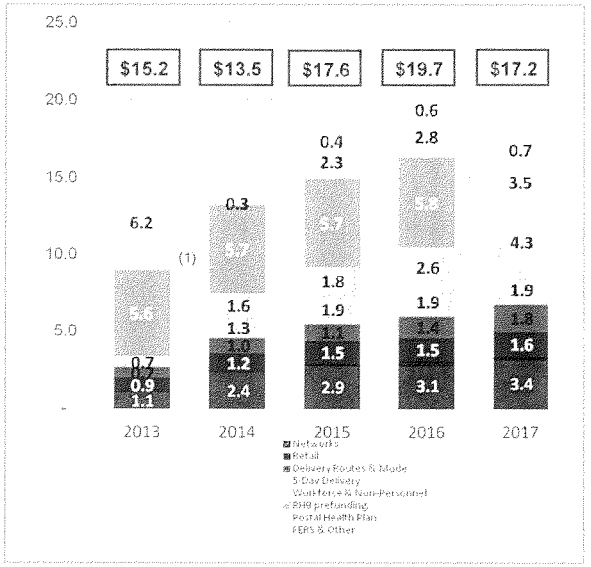
* Includes only the expense of the FY2012 RHB pre-funding ($5.6B) and not the second RHB pre-funding carried-over from FY2011.

Savings by Strategic Initiatives

Strategic Initiatives ($ Billions)

	2016 Savings
Operational Initiatives	
Networks	$ 3.1
Retail	1.5
Delivery	1.4
Total Operational Initiatives	6.0
Workforce & Non-Personnel	2.6
Legislative Initiatives	
5-Day Mail Del. + Saturday Pkgs	1.9
Postal Health Plan	8.6
FERS & Other	0.6
Total Legislative Initiatives	11.1
Total 2016 Savings	$ 19.7

Savings by Strategic Initiative ($ Billions)



(1) Includes $6B estimated refund of FERS overfunding.

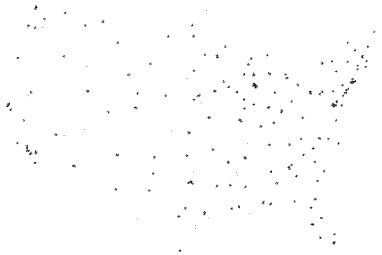
Strategic Initiative: Network Consolidations

Consolidate Excess Capacity

- 417 processing facility network built to handle 250 billion pieces of mail
- Current and projected volumes call for network of <250 facilities
- 2012 Plan assumed all consolidations & service standard changes in 2012.
- In Summer 2012, adopted two-phase approach in order to allow Congress sufficient time to pass comprehensive Postal Reform legislation.
  - Phase I - Summer 2012 - Spring 2013.
  - Phase 2 - Spring 2014.
- Accelerating portions of Phase 2 Consolidations to June-Sept '13 without impacting service standard.
- $3.4 billion savings achieved in 2017, including workload effects.

From 417 Processing Facilities

Rationalized Network of <250 Facilities



Strategic Initiatives: Retail

Retail Channel Strategies

- Transform customer experience in high traffic Post Offices by increasing the availability of self service
- Enhance customer experience through expanded retail partnerships
- Preserve retail service in rural America by modifying window service hours to match the local customer demand and establishing Village Post Offices with local businesses to provide postal services where customers shop

2017 Savings ($ in billions)

Workload Impact of Reduced Volumes	$	1.0
PostPlan		0.6
Total Retail Savings	**$**	**1.6**

Savings Detail

Volume decline of 21 billion pieces by 2017 reduces retail workload

- Increase adoption of self service at high traffic offices from 28% to 65%
- Shifting transactions to alternative access
  - Increase alternate access retail revenue from 40% to 60%
- Implement non-career staffing at 13,000 small Post Offices (level 16 and below)
- Phase in 2-4-6 hour operations throughout 2013 and 2014

Strategic Initiatives: Delivery

Expand Centralized Delivery

- Savings of $65 per year for each delivery converted from curb to central
- Savings of $190 per year for each delivery converted from door to central
- Savings will more than cover the costs associated with centralized delivery boxes:
  - Purchase cost
  - Installation cost
  - Maintenance cost
- New delivery points - centralized

2017 Savings ($ Billions)

Workload Impact of Reduced Volumes	$	0.8
Delivery Optimization		1.0
Total Delivery Savings	**$**	**1.8**

Savings Detail

- Workload Reduction
  - Volume decline of 21 billion pieces by 2017
  - Delivery workload reduction by 2017 of $0.8 billion
- Delivery Optimization Savings:
  - Delivery Unit Optimization (consolidations) – approx. 1,500 planned by 2015
  - Route Optimizations continue

Savings – Legislative Initiatives

$ in Billions

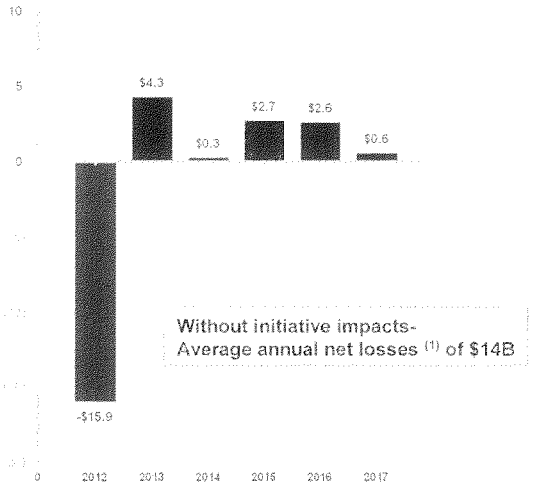
Legislative Initiatives	2012A	2013	2014	2015	2016	2017	'13 - '17
5-Day Mail Delivery + Saturday Pkgs (Jan 2014)	-	-	1.3	1.9	1.9	1.9	7.0
Resolve RHB prefunding (Postal Health Plan Beginning 2015)	-	5.6	5.7	5.7	5.8	-	22.8
Postal Health Plan - Actives' Premium Reductions	-	-	-	0.2	0.4	0.4	1.0
Postal Health Plan - RHB: Normal Cost vs Retiree Premiums	-	-	-	2.1	2.4	3.1	7.6
FERS Surplus Refunded	-	6.0	-	-	-	-	6.0
FERS - Reduce Biweekly Contribution Percentage	-	0.2	0.3	0.3	0.3	0.3	1.4
New Career Employee - Defined Contribution Pension Only	-	-	-	-	0.1	0.1	0.2
Workers' Compensation Reform (Equivalent to S. 1789)	-	-	-	-	0.1	0.1	0.2
Non-Postal Products and Services	-	-	-	0.1	0.1	0.2	0.4
Legislative Initiatives Total	**-**	**11.8**	**7.3**	**10.3**	**11.1**	**6.1**	**46.6**

Delivery Schedule	• 6-day package delivery and 5-day mail delivery begins in Jan 2014. • Reduced workload from 5-day mail delivery. Noncareer flexibility used for Saturday packages
RHB Prefunding	• Requesting Congress to require Postal Health Plan for both active employees and retirees beginning January 2015. • Eliminates need for prefunding in 2013 and beyond.
Postal Health Plan (Active Employees)	• Requires union agreement under current law. • Requesting Congress to require Postal Health Plan, beginning January, 2015.
Postal Health Plan (Retirees)	• Market Postal Health Plan to retirees while continuing to pay FEHBP premiums (pay-as-you-go) through 2014. • Requesting Congress to require Postal Health Plan for retirees, beginning January 2015. • Postal Health Plan will reduce costs, providing for a fully funded RHB, therefore only paying annual "normal cost" in 2015 and beyond.
FERS Refund & Biweekly Contribution Percentages	• Estimated values using Postal-specific assumptions (primarily pay increases and demographics), versus the government-wide assumptions currently used by OPM.
New Career Employee	• Savings from changing from defined benefit pension to defined contribution plan (TSP) for employees hired beginning in 2015. • Savings don't begin until 2016 because of minimal number of new hires.
Workers' Comp Reform	• Assumes enactment of reforms from Senate Bill passed in April 2012.
Non-Postal Products & Services	• Includes estimated financial benefit of shipping beer and wine and providing services on behalf of federal and local government agencies.

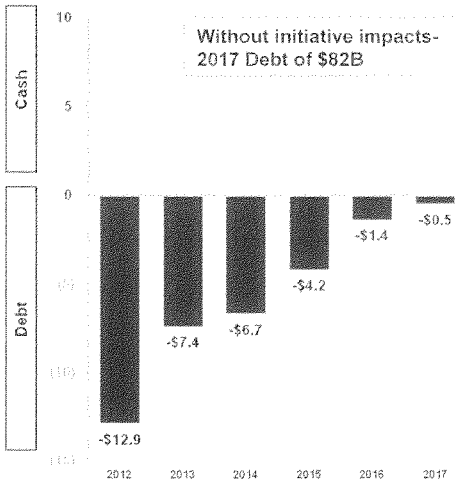
Financial Projections after Strategic Initiatives Achieved

Achieving the Business Plan will produce reasonable profits that will allow for debt repayment. This requires full realization of all the Strategic Initiatives.

Net Profit [1] ($ in billions)



Net Debt ($ in billions) eliminated



(1) Excludes impacts of non-cash adjustments (if any) to workers' compensation liability in 2013 - 2017.

Closing Comments

Subject: Fwd: Prescriptions by State; Adherence Info
From: richard Lee <richardfpa@gmail.com>
Date: 5/14/14, 9:21 AM
To: "Patrick Eidemiller | m-pack Systems" <peidemiller@mpacksystems.com>, Bill Negrini <bnegrini@mpacksystems.com>

More FYI

Richard Lee, Vice President
mpack Systems
an Affiliate Company of eNNOVEA
Mpack Compliance Vials • Pharmacy Automation

Mobile: 209 304-0908*
Customer Care: 818-700-1500

---------- Forwarded message ----------
From: **Larry Lotridge** <lwlotridge@gmail.com>
Date: Wed, May 14, 2014 at 9:20 AM
Subject: Fwd: Prescriptions by State; Adherence Info
To: richard Lee <richardfpa@gmail.com>

Take a look at this report. With the added information on your system, you could argue that it increases the "Patient Education," but the report does push visits to the Pharmacy for that education. I'll let you know what I find out on Mail Order. Even if there is bad news on that front, I think pushing how much easier it is to add content and for patents to read the information, your system is a big pluss for Mail Order and should improve compliance.

---------- Forwarded message ----------
From: **Alex Adams** <AAdams@nacds.org>
Date: Wed, May 14, 2014 at 11:54 AM
Subject: RE: Prescriptions by State; Adherence Info
To: Larry Lotridge <lwlotridge@gmail.com>

No worries.

Also attached the NEHI report which has the statement: An estimated one third to one half of all patients in

the U.S. do not take their medications as prescribed by their

doctors

ALEX J. ADAMS, PHARMD, IOM
Vice President, Pharmacy Programs
aadams@nacds.org
P: (703) 837.4232
C: (419) 708.5186

National Association of Chain Drug Stores (NACDS)
1776 Wilson Blvd. Suite 200 Arlington, VA 22209

www.nacds.org
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www.twitter.com/@NACDS

From: Larry Lotridge [mailto:lwlotridge@gmail.com]
Sent: Wednesday, May 14, 2014 11:52 AM
To: Alex Adams
Subject: Re: Prescriptions by State; Adherence Info

Thanks Alex! You the man!

On Wednesday, May 14, 2014, Alex Adams <AAdams@nacds.org> wrote:

Larry,

Great to hear from you today!

Betsy sent along this resource. Kaiser publishes the number of Rxs filled by state. The most recent year of data is 2011. Link is here: http://kff.org/other/state-indicator/total-retail-rx-drugs/

Laura Miller indicated she may have more recent data, and if so, I will be sure to send it along.

With respect to adherence, I've attached one of the most cited reviews. It discusses the challenges in coming up with adherence rates, and notes that even in controlled clinicial trials, adherence rates are only 43-78%. NEHI has reported 1/3 to 1/2 of all patients stop taking medications over time, and I've seen the latter most commonly used.

Let me know if you need anything else.

Alex

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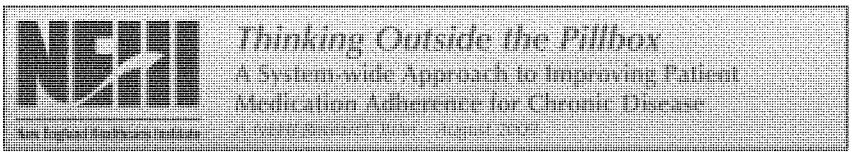
Attachments:

pa_issue_brief_final.pdf 383 KB



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PhRMA

Thomson Reuters

About the Initiative:

NEHI's project takes a unique, system-wide and multi-stakeholder approach to addressing patient medication adherence, a key issue in the treatment of chronic disease. The goals of the initiative are to first identify and then test strategies that will improve the health of patients with chronic disease and create cost savings.

Introduction

In its 2007 report, "Waste and Inefficiency in the Health Care System – Clinical Care: A Comprehensive Analysis in Support of System-wide Improvements," the New England Healthcare Institute estimated that a full third of the $2.4 trillion spent on health care in the U.S. could be eliminated without reducing the quality of care. The overuse and misuse of medical services and unwarranted practice variation across the country account for much of this waste.

Poor medication adherence – another source of health care inefficiency

Poor medication adherence is increasingly recognized as another significant source of waste in our health care system. Poor adherence often leads to preventable worsening of disease, posing serious and unnecessary health risks, particularly for patients with chronic illnesses. An estimated one third to one half of all patients in the U.S. do not take their medications as prescribed by their doctors.[1] Nonadherence has been shown to result in $100 billion each year in excess hospitalizations alone.[2] NEHI estimates that nonadherence along with suboptimal prescribing, drug administration, and diagnosis could result in as much as $290 billion per year in avoidable medical spending or 13 percent of total health care expenditures.

A problem with many symptoms

Precise definitions of medication adherence vary, but the World Health Organization provides an all-encompassing description of poor adherence: any deviation from the prescribed course of medical treatment. Indicators of poor medication adherence range from a patient's failure to pick up or renew prescriptions, to failure to take prescribed medicine at the prescribed dosage level or at the prescribed interval, to failed persistence and the abandonment of a medication regimen altogether.

Solutions must address many barriers

There are many barriers to medication adherence. Cost, side effects, the challenge of managing multiple prescriptions (polypharmacy), patients' understanding of their disease, forgetfulness, cultural and belief systems, imperfect drug regimens, patients' ability to navigate

the health care system, cognitive impairments, a reduced sense of urgency due to asymptomatic conditions ("I don't feel sick – I don't need the medicine"): all these and more are important barriers to sustained drug adherence.

Adherence and Chronic Disease: Scope of the Problem

Today, more than one half of all Americans live with at least one chronic condition.[3] This percentage is anticipated to rise substantially in coming years as our population ages and health risks such as obesity continue to rise.

Chronic disease and poor adherence are linked

In general, adherence rates are lower among patients with chronic conditions than among those with acute conditions. Likewise, medication persistence – the length of time a patient continues to take a prescribed drug - tends to be very low for those with chronic illness. Studies have shown a significant drop in adherence shortly after a drug is prescribed. Among a large cohort of patients with coronary artery disease, over 25 percent of patients discontinued drug therapy within 6 months.[4] Another study of patients receiving statin drugs found that while adherence was nearly 80 percent within the first three months of treatment, adherence dropped to 56 percent within 6 months and only one in four patients had an adherence level of 80 percent or greater after five years.[5]

Poor adherence leads to poor outcomes

Reaching the improved health outcomes that prescription drugs offer depends on patients following their drug regimens. Patients with chronic disease are particularly vulnerable to poor health outcomes if they do not adhere closely to their medications, with a resultant increase in need for both outpatient medical care and hospitalizations. In a recent study of diabetes and heart disease patients, nonadherent patients had significantly higher mortality rates than adherent patients (12.1 percent versus 6.7 percent) [6] A large observational study of patients with diabetes, hypertension, high cholesterol and congestive heart failure found that for all four conditions, hospitalization rates were significantly higher for patients with low medication adherence.[7] Among diabetes patients, the one-year risk of hospitalization was 13 percent for patients with high adherence and 30 percent for patients with low adherence. Similarly, hypertension patients with high adherence had a 19 percent risk of hospitalization compared to a 28 percent risk for patients with low adherence.

Poor adherence also leads to increased medical costs

This increased risk of hospitalizations due to poor health outcomes translates to significant excess costs. Several studies have found that overall health care costs are much higher for patients with poor adherence. For example, among diabetes patients, those with high levels of adherence had total annual health care costs of $8,886 while patients with low levels of adherence had almost twice the total annual health care costs totaling $16,498.[8]

The system-wide costs of poor adherence are enormous: In 2001, Ernst and Grizzle estimated the annual cost of "drug-related morbidity" in the ambulatory care setting to be

$177 billion, an estimate that encompassed poor adherence, as well as suboptimal prescribing, drug administration, and diagnosis. NEHI has updated this estimate, adjusting the average costs and number of medical events to reflect more current data. NEHI now estimates that the current cost of drug-related morbidity, including poor adherence, to be as much as $290 billion annually. A detailed explanation of NEHI's analysis is available in Appendix I. To put this in context: for a typical mid-sized employer with $10 million in claims, poor adherence may generate avoidable health care spending of about $1 million.

The relevance of adherence policy to U.S. health care reform

Since 75 percent of U.S. health care spending now goes to the treatment of chronic disease, poor adherence should be seen as a serious roadblock to improved efficiency in the health care system, as well as a threat to public health.[9] The debate in Washington over national health care reform provides an ideal opportunity for policymakers to assess the evidence for effective adherence promotion and to link appropriate strategies to the larger goals of health care reform. Several of the major objectives of health care reform are directly relevant to adherence promotion, including payment reform (especially a transition to outcomes-based payments), widespread adoption of health care information technologies, primary care reform and care coordination.

Adherence Initiatives: The Landscape

New initiatives to promote medication adherence have increased as chronic disease management has become a national priority. Improved adherence is a goal of the 2003 Medicare Modernization Act that created the Medicare Part D drug benefit. The legislation promotes creation of Medication Therapy Management services that utilize professional pharmacists to counsel targeted Medicare beneficiaries on their prescription use. Adherence is also an implicit goal of well-known initiatives in chronic care such as the Asheville Project and the Ten-City Challenge of the American Pharmacists Association Foundation (both for diabetes management), and the Medicare disease management pilot program.

Much of the innovation in adherence efforts is not yet scientifically controlled

Some initiatives such as the Medicare demonstration projects have been designed as randomized controlled trials, but a great many of the adherence initiatives now underway in the field are not designed as trials. They are designed primarily to demonstrate the capabilities of specific health care providers in promoting adherence or to demonstrate the utilization of new tools and technologies. For example, the pharmacy profession and the pharmacy industry have developed new tools (such as patient assessment tools) and new initiatives that expand the role of pharmacists and pharmacies in improving adherence. The movement among many corporations towards proactive patient/consumer health management and the use of value-based insurance design (VBID) is demonstrating the use of financial incentives to promote healthier behaviors, including medication adherence. The new generation of Internet, health information technology and communications

technologies have inspired a host of new inventions and entrepreneurial start-ups designed to provide medication adherence prompts and monitoring capability to patients and caregivers.

Research Findings

Literature Review: Findings from Controlled Trials

An examination of findings from randomized, controlled trials provides some suggestive evidence on broad categories of interventions that have proven effective in improving adherence. NEHI derived findings from seven previously performed reviews and a total 40 peer-reviewed studies relevant to adherence among the chronically ill. Appendix II includes a list of the reviews we identified.

Simplified drug regimens
Modifying a patient's drug regimen to reduce the number of pills a patient is required to take at each dose is one way to address adherence. One study found that among hypertension patients, those who took once-daily therapy had 11 percent better adherence (as defined by the percentage of correct doses) than those who took twice-daily therapy.[10] Similar improvements were seen among patients with high cholesterol. Patients prescribed to take their medication twice daily had 10 percent better adherence (as measured by pill counts) than patients with a four times daily dosing schedule.[11]

Patient education
Providing patients with appropriate education has been shown to improve adherence. Education materials generally attempt to provide patients with information about their disease, useful background information on their medications and how they work, and the importance of adherence. Materials may come in the form of educational sessions, videos or written material. One study found that among elderly patients with three or more medications, visits by a pharmacist to provide education improved adherence by nearly 12 percent (adherence defined as the percentage of correct doses).[12] Another study found that providing depression patients with multiple forms of educational materials improved pharmacy refills (a proxy for adherence) by 25 percent.[13]

Case management
While case management comes in many forms, some approaches have been successful in improving medication adherence. Key elements of case management may include instructing patients on how to recognize symptoms and side effects, regular phone calls to monitor and prompt adherence, and regular reviews of clinical reports to check on outcomes and to spot adherence failures. For example, among diabetes patients, those who received bi-weekly automated assessment calls and self-care training by a nurse had 21 percent better adherence (as measured by self report of missed doses) than those patients who received usual care.[14]

Discharge counseling
Patients who receive counseling immediately preceding and/or following a discharge from the hospital are more apt to adhere. Interventions often include in-hospital discharge counseling by a pharmacist or nurse, as well as post-discharge home visits to provide pharmaceutical counseling. One study found that among elderly patients with more than three medications, adherence improved by 43 percent (as defined by self-report of "never missing a dose") among patients who received pharmacist counseling before and after hospital discharge, compared to patients who did not receive the intervention. [15]

Pharmaceutical counseling
Another successful intervention to improve adherence is counseling by community pharmacists. The details of the counseling may vary but likely include a review of the medication list, assessment of patient knowledge about their condition and medications, education on adherence strategies, and suggestions for lifestyle changes to decrease symptoms. One study of patients with heart failure found that among patients who received monthly pharmacist counseling, non-adherence (defined as percentage of missed daily doses) was less than half of that observed among the usual care patients.[16] Similarly, another study of patients with heart failure found that pharmaceutical counseling combined with dose simplification increased adherence by 46 percent ('adherent' defined as medication possession ratios between 80 and 120 percent).[17]

Limitations of the Literature Review
Findings from the literature come with important qualifications and limitations. Very few of the conducted studies are of high methodological quality. Even within the peer reviewed literature, sample sizes tend to be small and follow-up periods are short. Measurements of adherence vary across studies and the focus of studies is often very narrow – focusing on one disease among a specific population. Interventions often include multiple components, making it difficult to determine the exact impact of individual elements of the intervention. Studies examining similar interventions often found conflicting results, making it difficult to draw conclusions about the impact of specific or discrete interventions.

Findings from Expert Interviews: Three Pillars of Improved Adherence

NEHI and analysts from Avalere Health interviewed and examined a total of 34 adherence programs and experts in the field. The interviews provided insights into current initiatives that serve as 'living laboratories' for new adherence practices. A full list of interviews is available in Appendix III.

Findings from the interviews suggest three pillars of improved adherence (see Figure 1). It is important to note that while presented in the following order, these three pillars do not necessarily need to be addressed in this order. Additionally, the relationship between these pillars is not necessarily linear either and for many patients it is important to address and re-address these pillars several times along their care and regimen continuum.

Designing the right medication regimen for the individual patient
The design of a medically appropriate drug regimen for each individual patient is a crucial factor in sustained medication adherence. Medication appropriateness should be considered in the context of all other prescriptions and medical orders to which the patient is subject – not always an easy task when patients have multiple prescriptions written by multiple prescribers. Some experts interviewed by NEHI claim that prescribers could reduce non-adherence to only 10-15 percent simply by getting the correct drug regimen in place.

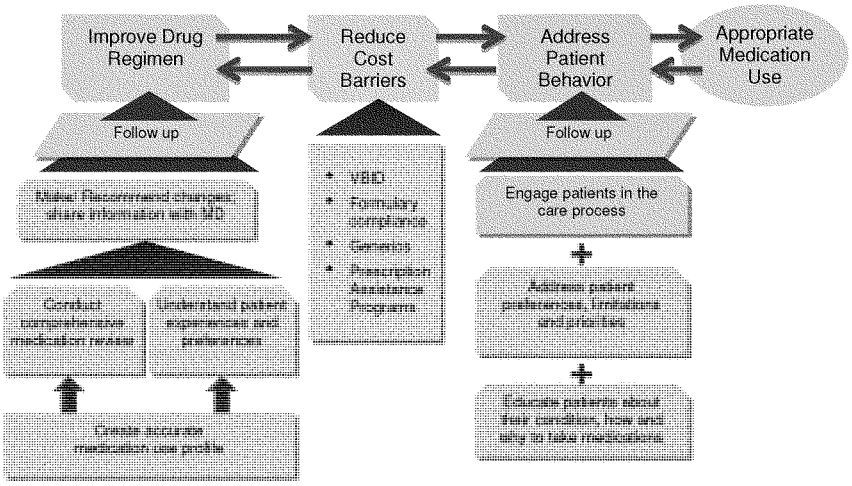
Reducing drug cost barriers
Out-of-pocket drug costs exert a powerful influence on adherence that is largely independent of other behavior-related factors. The impact of out-of-pocket drug costs has likely increased in recent months. Recent survey data from the Kaiser Family Foundation and the National Business Group on Health suggest that poor adherence has increased since the recession in 2008.[18,19]

Economists confirm a strong price elasticity of demand between drug costs and adherence (higher costs lead to lower adherence). Many corporations are now seeking to improve adherence and reduce unnecessary medical spending by employing value-based insurance design (VBID) plans that lower employee contributions and out-of-pocket costs for cost effective medications for chronic disease. Experts suggest that lowering medication co-payments for specific chronic conditions can be linked to improved medication possession ratios.

Addressing the behaviors and preferences of individual patients
Experts stress that patients not only vary across a continuum of knowledge (their health literacy, their understanding of their disease and so on), they vary across a continuum of willingness and ability to adhere as well. This variability among patients also extends to patients' proclivity to persist in adherence over time – thus a successful adherence strategy must provide continuity of care and follow-up. The odds that an adherence strategy will be successful are related to how well the strategy can first identify the varying needs of individual patients, and then match services accordingly. An ideal adherence strategy should be patient-centered and holistic taking into account everything from lifestyle to cultural and belief systems.

As a result, promising adherence strategies are invariably multi-component strategies. They do not rely on single 'silver bullet' interventions but typically involve a suite of interventions or services. For example, in many of the programs studied by NEHI, interventions involve one-on-one patient interviews with health care professionals, patient education and follow-up reminder systems.

Figure 1. Three Pillars of Improved Adherence



Source: Avalere Health, NEHI Analysis

Design Principles for Adherence Interventions

Findings from the expert interviews suggest a number of key design principles for medication adherence interventions.

Patient-centered
Adherence interventions should utilize direct contacts with the patient (face-to-face, through telephone or other contact) and should tailor the overall intervention to meet the patient's preferences and address the patient's readiness to adhere to and persist with prescribed medication.

A holistic view of the patient
Adherence interventions should be built around an understanding of the patient's overall medical condition, particularly reconciliation with the patient's full set of prescription drug orders.

Multiple components
Successful interventions should pull together and integrate a complete set of tools and incentives that achieve an optimal drug regimen, overcome cost barriers and address behavior factors unique to each patient.

Physician support and engagement
While interventions may rely on services delivered outside the physician practice (such as pharmacy-based counseling or medication reconciliation), interventions should engage directly with the prescribing physician. Interventions should support the physician with accurate and complete information on the patient and, with appropriate privacy safeguards, gain access to patient data from the doctor that may prove important to the overall intervention.

Continuity of care and follow-up
Follow-up care is crucial if interventions are to overcome the propensity of many patients to drop treatment (failure to persist). Interventions should support patients as they undergo transitions, such as hospital discharges, that may disrupt adherence or reduce the patient's sense of urgency to adhere.

Data and data infrastructure
Few of the design principles outlined here can succeed without making timely and complete data available to patients, physicians and other providers when they need it. Data on patients and on relevant medications must be available at the point of prescription and at every point of patient follow-up. Lack of complete and timely data will hinder the ability of health care providers to identify and track non-adherent patients.

Targeting and stratifying key populations
An ideal, system-wide approach to medication adherence would entail "mass customization" of adherence interventions. Infrastructure would be put in place to serve great numbers of chronically ill or at-risk patients in highly individualized ways. As a practical matter, promising adherence interventions rely heavily on targeting that identifies those patient populations most at risk and most likely to avoid serious illness through improved adherence. Promising interventions also stratify target populations in order to match an appropriate mix of services, from "low-touch" services to "high-touch" services," and thus achieve the highest level of cost effectiveness.

Levers to Improve Adherence: Choices for Policymakers

In the course of our research NEHI identified broad categories of actions that can improve patient adherence, categories we refer to as "levers" to improve adherence. None represent a single, discrete intervention; they must be used in some combination with each other. However, each one represents a fairly discrete investment decision for decisionmakers such as health plans, employers and government agencies. The key decision for policymakers is on which levers to focus, how to weigh the utilization of one lever against others and how the introduction of each should be sequenced within an overall strategy for adherence. NEHI presented these levers to a multi-stakeholder expert panel and audience and asked them to vote on the levers that they would invest in to see the greatest improvement in adherence. Four levers rose to the top: appropriate care teams, patient engagement and education, payment reform and health information

technology. While the remaining six levers received only a small portion of the vote, they are still important and viable options to consider.

Most Promising Levers as Identified by Expert Roundtable

Use of health professionals: assembling appropriate care teams
The adherence process begins with the individual patient and with the prescribing physician. Research and expert interviews underscored the limitations faced by physicians today in promoting adherence, including too-brief encounters with patients, inadequate information on which to act, and limited reimbursement for "cognitive services" like counseling.

As a result, adherence initiatives point in two directions; 1) they provide further support to physicians through physician extenders; or 2) they provide new support outside the physician practice to fill the void in promoting and managing patient medication adherence. Pharmacists and pharmacy researchers have been especially active in the last decade in developing new tools and techniques for meeting the adherence challenge. For example, Medication Therapy Management (MTM) strategies have been largely developed by the pharmacy profession.

Whether an initiative involves providing support to physicians within the phyisician's office or outside the office, such efforts will involve the establishment of some form of care team. There is certainly room for team members from within the traditional physician practice as well as outside.

Programs are using many variants of care teams, but the most fundamental variables relative to care teams are the locus of care and how the care is delivered.

Care teams may be centered:

> Within the physician or medical practice, as exemplified by the patient medical home.
>
> Outside the physician or medical practice, as exemplified by interventions led by pharmacists or pharmacies, such as the Asheville Project, in which pharmacists play a leading role in monitoring and counseling diabetics. Other interventions outside the phyisican or medical practice include those led by third parties, such as health coaching or disease management services led by nurses and other care managers, which may be retained directly by employers or health care payers.

And care team services may be delivered:

- On a face-to-face basis.
- Through telephone-based alternatives, such as call center-based services (utilizing nurses, pharmacists or other professionals), automated voice responses, and/or Web-based services.

The profusion of care team models raises important issues for policymakers. For example, if physician office care teams prove effective, how will physicians make the investments necessary to create care teams? If care teams outside the physician office are effective, then how will the efforts of these teams coordinate with physicians and other clinicians? Finally, experts have noted that providers at all levels are not sufficiently trained to address adherence issues. Thus, how will the care teams of the future be trained to most effectively improve medication adherence?

Some answers to these questions lie in how care teams will utilize tools, incentives and enabling technologies that undergird promising adherence strategies.

Patient Engagement and Education

Experts distinguish between patient "activation," which refers primarily to assessment of the patient, and patient engagement and education, which motivates the patient over time to sustain adherence. Many experts emphasize the importance of ensuring that the patient understands his or her disease, the role and function of their medication, and the importance of good adherence. These interactions should take into account the patient's level of health literacy, as well as language and cultural factors.

Much of the current work that applies patient engagement and education tools to adherence comes out of the pharmacy sector. A leading example is applied motivational interviewing (MI). Experts describe MI as "directive, patient-centered counseling designed to motivate patients for change by helping them recognize and resolve the discrepancy between their behavior, personal goals and values."[20] A recent study found that patients who underwent MI maintained their medication adherence levels over time, compared to a significant decline in adherence among patients who received usual care.[21]

Payment Reform/Pay-for-Performance or Outcomes

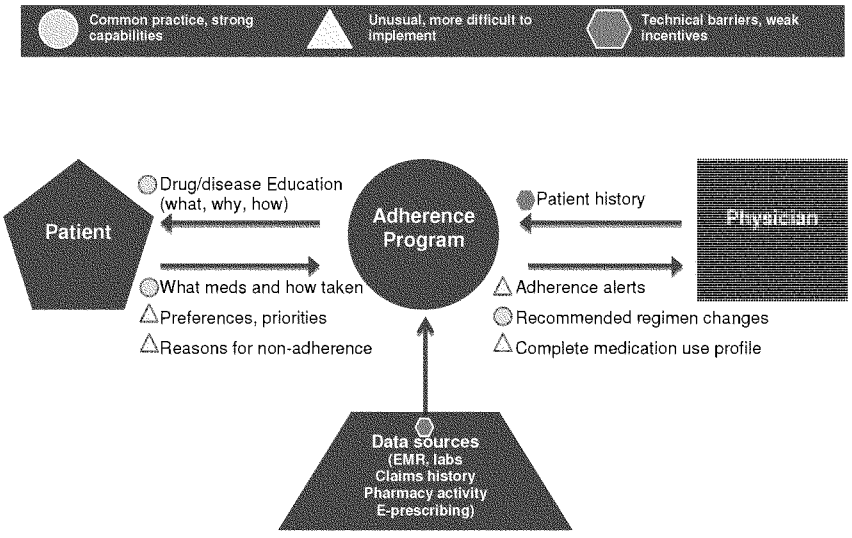
Improved adherence is directly relevant to the growing health policy debate over reform of physician and provider reimbursement. The ongoing debate focuses on realigning current health care reimbursement incentives away from rewarding volume (fee-for-service reimbursements) and towards rewarding good outcomes, of which medication adherence may qualify as either a means toward that end or an endpoint itself. Performance-based or global service reimbursements could also serve the purpose of creating incentives for investments that will facilitate adherence, including investment in new staff, adherence-related tools and enabling technologies such as clinical decision support, electronic prescribing and electronic medical records. Given the emerging role of non-physicians such as pharmacists in adherence promotion, payment reform to promote adherence could be extended to non-physicians as well. Currently, community pharmacists are not reimbursed for patient counseling (beyond limited MTM programs) which leaves these providers with little incentive to provide additional adherence-related services.

Health Information Technology (Health IT)
Secure, reliable and robust information flows are essential to improved adherence: patients, caregivers, physicians, pharmacists and other professionals need information at the right time and the right place across the medication adherence process. Data is needed to improve physician prescribing decisions and provider follow up, including data on appropriate drug regimens, patient medical and prescribing history, and pharmacy data on medication pick-up and refills. Supporting technologies include electronic health records, e-prescribing and clinical decision support systems.

When used with appropriate security and privacy safeguards, patient data and pertinent pharmacological data is also useful to other stakeholders, including employers and health plans looking to design targeted adherence programs. Accurate and timely data is particularly important as a patient moves throughout the health care system and care is provided by professionals other than the patient's primary care physicians, such as occurs during hospitalizations and/or visits to specialists.

Despite the importance of these data flows, there are significant gaps in how data is currently shared. Figure 2 outlines how adherence-related data moves throughout the health care system, where and between which players data is currently shared as common practice, where data sharing is more difficult to implement and is not as common, and where data flows are inhibited by technical barriers and weak incentives.

Figure 2. Critical Information Flows



Source: Avalere Health, NEHI Analysis

Additional Tools, Incentives and Technologies to Improve Adherence

Medication Reconciliation and Regimen-setting

Some experts believe that a great portion of non-adherence could be corrected if doctors had a comprehensive and accurate medication list of what medications patients are taking and what they should be taking and could tailor a patient's regimen to their preferences and priorities. Given the high number of patients on multiple prescriptions, reconciliation of new drug orders with old orders is essential. While it is not necessarily a new technique, medication reconciliation has assumed new importance as an increasing number of patients are prescribed multiple prescription medicines, often by multiple prescribing physicians. A recent study found that multiple providers increased the risk of an adverse drug event, many of which may be related to poor adherence. Each additional provider prescribing medications increased the odds of such an event by 29 percent.[22]

Doctors are frequently at a disadvantage in reconciling medications, as multiple prescriptions are often prescribed by multiple doctors who may or may not communicate with each other. Yet reconciliation can be as straightforward as asking patients to bring all their medications in a paper bag for the doctor or pharmacist to review. A more systematic approach to medication reconciliation and good regimen design will require use of other levers identified below, including the circulation of timely and accurate data through health information technology and supportive payment policies that allow doctors or other providers – including pharmacists – to review patient medication regimens. Medication Therapy Management (MTM) programs have focused on this aspect of adherence improvement, but have important limitations. MTM programs are only for Medicare and Medicaid patients with very complex regimens, provide counseling only once a year, and follow-up is not required.

Patient Assessment

Adherence experts emphasize that understanding the needs, preferences and medication history of the individual patient is critical to improving adherence. Patient assessment begins with understanding a patient's existing and complete prescription history so that a patient's overall prescription regimen can be reviewed and optimized.

Patient assessment techniques extend to issues of patient behavior and patient preferences. An increasing number of psychometric tools and surveys allow health care teams to predict a patient's likely adherence patterns or assess the patient's readiness to change adherence behaviors. For example, the "Adherence Estimator" developed by Colleen McHorney and others at Merck and Company is a three-item test that measures "intentional non-adherence," specifically medication non-fulfillment and non-persistence.[23] Also, "patient activation" tools have been pioneered by Dr. Judith Hibbard and colleagues at the University of Oregon. "Activation" refers to the patient's ability and willingness to take on the role of

managing their health and health care.[24] The Patient Activation Measure (PAM) determines a patient's knowledge, skill and confidence in managing their health. Research has shown that a patient's level of activation correlates with adherence. As such, some providers are now administering the PAM, both online and in the physician's office, as a screening tool to identify patients who are likely to be nonadherent. Once providers have this information, they may choose to provide the patient with additional services or refer them to another program. Assessment of the patient's level of "activation" may extend to his or her ability to pay for prescription medicine and hence to the prescriber's ability to make the drug regimen affordable for the patient. For instance, based on a patient's level of "activation" a provider may choose to prescribe a simplified drug regimen, recommend a patient assistance program, start a patient on a generic form of a drug or recommend the use of mail order.

Plan Design/Value-based Insurance Design

Employers in the U.S. are increasingly taking a new approach to managing health care benefit costs by designing health insurance benefit programs that provide employees with incentives to utilize preventive medicine and wellness services. Adherence is an implicit goal of many such programs, and could well become an explicit goal if employers and health care payers gain greater confidence in the effectiveness of adherence interventions. Value-based insurance design (VBID) programs reduce employee cost sharing for high value services that prevent or encourage good management of chronic diseases. Accordingly, many employers are offering to reduce employees' costs for highly effective medications for specific chronic conditions such as diabetes and asthma.

Other Employer-sponsored Incentives

Adoption of VBID plans is one manifestation of a larger movement among employers and health care payers to utilize direct financial incentives to promote preventive medicine and healthier lifestyles. Current practices include differential premium contribution levels for employees who participate in wellness activities or maintain good behaviors, and one-time or annual rewards for specific activities (many employers offer rewards for employees who self-administer a Health Risk Assessment). Other incentives are designed to reward adherence among employees/patients enrolled in specific disease management programs, or to provide employees with enhanced benefits in exchange for participation in activities, such as health coaching, that promote adherence and other health goals.

Redirecting Manufacturer Rebates

Pharmaceutical manufacturers engage in direct negotiations with purchasers (health plans, pharmacy benefit managers, some employers) to provide access to specific drugs for specific tiers on a drug formulary. Interest is growing among some manufacturers in securing placement of drugs on health plan formularies and linking discounts and rebates for the drugs to improved adherence among patients. From the manufacturer's standpoint the cost of discounts and rebates will be offset

by increased revenues resulting from improved adherence. For example, Merck and Cigna recently announced a new deal under which Merck will provide discounts on its diabetes drugs to Cigna if the health insurer's diabetic members adhere to their diabetes medications. This approach is a 'lever of levers' in that it could provide financing for direct adherence initiatives deployed downstream, among patients, physicians, pharmacists and others.

Another way to redirect manufacturer rebates is to provide rebates/other financial incentives directly to the patient. These financial incentives could come in the form of reduced health insurance premiums or co-payments for patients adherence closely to their medications.

Technologies for Reminders and Monitoring

Technologies to facilitate adherence have greatly increased in recent years, enabled in part by Internet, cellular telephone and automated voice advances. The new technologies create new capabilities to remind patients to take medications at prescribed times and to monitor adherence from remote locations. Examples include customizable messaging systems that contact patients by phone, email or text message, electronic pill bottles and caps, electronic medication dispensers and boxes, mobile phone applications, and in-home monitoring devices. Many of these technologies also have the capability to transmit data back to the provider's office and/or pharmacy as well as to place prescription refill requests. Some technology vendors are linking products to call centers that provide patients with immediate access to health care professionals.

Conclusion

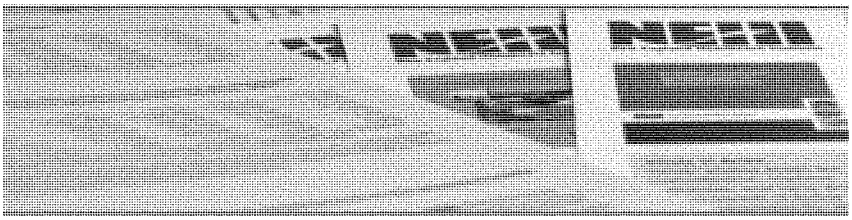
Patient medication adherence is a complex problem for which no simple and over-arching solutions have yet appeared. Promising approaches have emerged in peer-reviewed literature and in targeted initiatives and programs that appear in different areas within the health care system. But questions remain as to whether even the most promising approaches can be scaled-up to a point where major advances in adherence can occur throughout the system.

A fundamental question is whether poor adherence can and should be addressed as a stand-alone issue, or whether it is best addressed more indirectly by intensifying effort on other health policy reforms and calibrating those reforms so as to promote adherence. For example, fundamental payment reform that rewards outcomes should have the effect of promoting adherence. A strong nationwide investment in health IT should have the effect of providing patients and clinicians with information they currently lack to devise appropriate drug regimens and provide adequate follow-up. The ongoing movement to improve health care quality by tracking metrics of quality should encompass metrics of adherence.

What is needed now is greater awareness of the adherence crisis, a careful effort to make adherence a goal and a measure of progress for U.S. health care reform, and new effort to generate data on scalable, real-world solutions. NEHI looks forward to educating public and private policymakers on the scope of the adherence crisis, and on sound, data-based findings from tested adherence interventions in the months ahead.

About the New England Healthcare Institute

The New England Healthcare Institute (NEHI) is a nonprofit, health policy institute focused on enabling innovation that will improve health care quality and lower health care costs. Working in partnership with members from across the health care system, NEHI brings an objective, collaborative and fresh voice to health policy. We combine the collective vision of our diverse membership and our independent, evidence-based research to move ideas into action.



Appendix I: Estimated Cost of Poor Adherence

We sought to update the annual cost of drug-related morbidity and mortality using the model developed by Johnson and Bootman in 1995 and updated by Ernst and Grizzle in 2000. As in the 2000 update, we used the same decision-analytic model design and probability data, but changed the estimated average costs and number of medical events to reflect more current data. Whenever possible we used data from the same year, primarily 2007; some data was used from 2004, 2006 and 2008. Because earlier data was used, the total figure may be an underestimate.

The study estimated the likelihood of a patient experiencing one or more drug-related problem (DRP) in the ambulatory care setting and the cost of the subsequent negative outcomes. Specifically, DRPs included untreated indication, improper drug selection, subtherapeutic dosage, failure to receive drugs, overdosage, adverse drug events, drug interactions, and drug use without indication. The study did not delineate poor adherence from other DRPs, so the estimate includes the overall impact of all DRPs. There are five possible negative outcomes in the Johnson and Bootman model that create additional costs to the system (the two that do not are death and no treatment): an additional physician visit, additional treatment, ED visit, hospital admission or LTC admission. We replicated the Johnson and Bootman method for determining the number of events by multiplying the cumulative conditional probabilities for each of the six outcomes by the 2008 number of total physician visits estimated by the CDC, which was 901,954,000. The results of this calculation are listed in the table.

Whenever possible, cost updates came from the same sources used by Ernst and Grizzle. The average cost of a hospital admission, $17,271, was determined by dividing total hospital revenue in 2007 by the total number of admissions in the same year, figures obtained from the American Hospital Association. The average cost of a physician visit, from the Agency for Healthcare Research and Quality (AHRQ), was $155 in 2004, $46 more than in 2000. The average cost of an ED visit, $993, was also obtained from 2006 AHRQ data. Using 2007 Kaiser Family Foundation data to divide total reported sales by the total number of prescriptions sold, the average prescription cost was updated from $42 to approximately $58. Finally, the average cost of a long-term care admission was updated using 2008 data from the U.S. Department of Health and Human Services. The average daily expenditures on nursing homes and assisted living facilities were averaged and multiplied by the average length of stay, producing a figure of $13,761, which is $4,272 more than the 2000 reported figure.

The updated cost estimate, approximately $289 billion, was obtained by multiplying the number of events for each possible outcome by each respective cost estimate. This is a rough estimate of the increase in costs between 2000 and 2008, and is intended to be used as such.

Summary of Cost of Illness for Drug-Related Morbidity and Mortality				
	No. of Events (millions)	**Cost per Event**	**Total Cost (billions)**	**% Increase Since 2000**
Total Physician Visits	156.9	$155	$24.2	57%
Total Hospital Admissions	11.5	$17,271	$197.8	61%
Total ED Visits	23.5	$993	$23.3	24%
Total LTC Facility Admissions	4.3	$13,761	$58.8	56%
Total Additional Prescriptions	100.3	$58,49	$5.9	60%
Total Deaths	1.1	--	--	--
Total	**--**	**--**	**$289.0**	**161%**

Appendix II: Review Articles

Haynes RB, Ackloo E, Sahota N, McDonald HP, Yao X. Interventions for enhancing medication adherence. Cochrane Database of Systematic Reviews 2008(2).

Higgins N, Regan C. A systematic review of the effectiveness of interventions to help older people adhere to medication regimes. Age Ageing 2004 May;33(3):224-9.

Kripalani S, Yao X, Haynes RB. Interventions to enhance medication adherence in chronic medical conditions: a systematic review. Arch Intern Med 2007 Mar 26;167(6):540-50.

Krueger KP, Berger BA, Felkey B. Medication adherence and persistence: a comprehensive review. Adv Ther 2005 Jul-Aug;22(4):313-56.

McDonald HP, Garg AX, Haynes RB. Interventions to enhance patient adherence to medication prescriptions: scientific review. JAMA 2002 Dec 11;288(22):2868-79.

Osterberg L, Blaschke T. Adherence to medication. N Engl J Med 2005 Aug 4;353(5):487-97.

Peterson AM, Takiya L, Finley R. Meta-analysis of trials of interventions to improve medication adherence. Am J Health Syst Pharm 2003 Apr 1;60(7):657-65.

Appendix III: Expert Interviews

Programs and Organizations Examined and Analyzed

Amgen
Blue Cross Blue Shield of Massachusetts
BlueCross BlueShield of South Carolina
Boston Scientific
Community Care of North Carolina
Continua Health Alliance
CVS Caremark
EMC Corporation
Geisinger Health System
Group Health
Innovation Rx
Kaiser Permanente
Kerr Drugs
Medco
Medication Management, LLC
Medication Management Systems
Novartis
Outcomes
Partners HealthCare
Mount Sinai Hospital, Chicago
Surescripts
Thomson Reuters
Varolii
Vitality

Additional Experts Consulted

Bruce Bagley, MD, *Director, Quality Improvement,* American Academy of Family Physicians

Bruce Berger, PhD, *Professor and Department Head, Pharmacy Care Systems,* Auburn University Harrison School of Pharmacy

Ray Bullman, *Executive Vice President,* National Council on Patient Information and Education

Michael E. Chernew, PhD, *Professor of Health Care Policy, Department of Health Care Policy,* Harvard Medical School

Mark Fendrick, MD, *Professor, Division of General Medicine, Department of Internal Medicine and Department of Health Management and Policy,* University of Michigan

Brian Haynes, MD, PhD, *Professor, Department of Clinical Epidemiology and Biostatistics; Chief, Health Information Research Unit,* McMaster University

Judith Hibbard, PhD, *Senior Researcher, Institute for Policy Research and Innovation; Professor, Department of Planning, Public Policy & Management,* University of Oregon

David Hom, *President,* David Hom, LLC

Eve Slater, MD, *Associate Clinical Professor of Medicine,* Columbia College of Physicians & Surgeons

Norrie Thomas, PhD, RPh, *Executive Vice President, Business Development,* HWB, Inc.

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IMPROVING PRESCRIPTION MEDICINE ADHERENCE IS KEY TO BETTER HEALTH CARE

Using Medicines as Prescribed Can Lower Costs and Improve Health Outcomes

PhRMA

Successful treatment of disease with prescription medicines requires consistent use of the medicines as prescribed. Yet research shows that medicines commonly are not used as directed. Nonadherence to medicines is a major health care cost and quality problem, with numerous studies showing high rates of nonadherence directly related to poor clinical outcomes, high health care costs, and lost productivity. The cost of nonadherence has been estimated at $100 billion to $300 billion annually, including costs from avoidable hospitalizations, nursing home admissions, and premature deaths.[i]

Adherence to therapy is especially important for management of chronic diseases, such as diabetes, heart disease and cancer. Chronic disease affects nearly one in two Americans and treating chronically ill patients accounts for $3 out of every $4 spent on medical care.[ii] In a recent commentary, Harvard University researchers remarked that poor adherence among patients with chronic conditions persists "despite conclusive evidence that medication therapy can substantially improve life expectancy and quality of life."[iii] For the authors, the solution to this problem lies in "efforts to stimulate better prescribing of and adherence to essential medications [that] will increase value by improving population health, averting costly emergency department visits and hospitalizations, and improving quality of life and productivity."[iv]

Many of the human and economic costs associated with nonadherence can be avoided, making improving patient adherence one of the best opportunities to get better results and greater value from our health care system. Closing the adherence gap is important to the success of initiatives to improve the quality of health care, encourage better chronic care management, and promote better health outcomes. Forward-looking employers, health plans, and other stakeholders have begun implementing programs to encourage better adherence to medicines, but more remains to be done.

Medication Nonadherence Is A Common Problem

Nonadherence to needed medicines takes many forms. While the most common is simply forgetting to take a prescribed medicine, almost one-third of patients stop taking their medicine earlier than instructed.[v] Overall, nearly 75 percent of adults are nonadherent in one or more ways, such as not filling a new prescription or taking less than the dose recommended by the physician.[vi]

Primary Nonadherence

The rate at which patients refill prescriptions has been the focus of most prior research on adherence, with studies showing that many patients stop taking their medicines soon after having them filled. Now, the adoption of health information technology and electronic prescribing systems allows researchers to study how likely patients are to fill a new prescription in the first place, a measure referred to as "primary nonadherence."

- One new study of a commercially insured population indicates that nearly 30 percent of patients failed to fill a new prescription and that new prescriptions for chronic conditions such as high blood pressure, diabetes, and high cholesterol were not filled 20 to 22 percent of the time.[vii]
- A second study reports that new prescriptions for common maintenance medicines to control asthma and treat high cholesterol went unfilled 20 percent and 34 percent of the time, respectively.[viii]
- Other recent research shows that the share of patients that never become ongoing users (meaning they never fill the initial prescription or the first refill) of a newly prescribed diabetes, high blood pressure, or cholesterol medicine is eight times as great as the share who maintain ongoing use, but who do not routinely refill their prescriptions on time.[ix]

Secondary Nonadherence

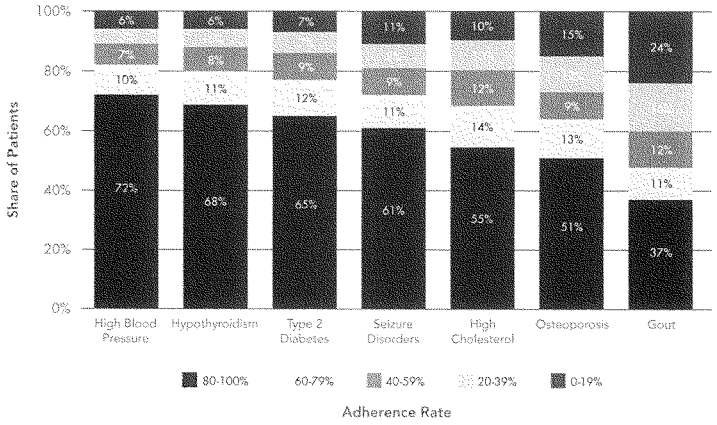
Most of the peer-reviewed literature on medication nonadherence is based on follow-up studies of patients who have filled at least one prescription. Because these studies do not include prescriptions that are written by a physician but never filled, they can be thought of as measuring the rate of "secondary nonadherence."

- Using a uniform method to compare adherence rates during the first year of therapy across a range of chronic medical conditions commonly treated with maintenance therapy, researchers found that the share of patients who regularly took their medicines as directed ranged from 72 percent for patients with high blood pressure to 37 percent for those with gout.[x] See Figure 1.
- Electronic monitoring studies indicate that even among chronically ill patients who regularly fill their prescriptions, only about half of the doses taken are taken correctly, as intended by a physician.[xi]
- Unfortunately, doctors are unable to predict which of their patients will likely be nonadherent to treatment. As former CBO Director Peter Orszag noted, "Doctors are no more accurate than relying on a coin flip in determining who will adhere to treatment and who won't (even among patients they know well)."[xii]

Reasons For Nonadherence Are Varied And Complex, Though Researchers Have Identified Some Common Predictors Of Poor Adherence.[xiii]

- Nonadherence is especially common when the patient is prescribed a medication to treat a disease for which the patient does not exhibit symptoms, such as high blood pressure or high cholesterol.

FIGURE 1: PATIENT ADHERENCE RATES BY CHRONIC CONDITIONS



Source: B.A. Briesacher et al. "Comparison of Drug Adherence Rates Among Patients with Seven Different Medical Conditions." *Pharmacotherapy*, June 2008

- Adherence is inversely proportional to the number of times a patient must take their medicine each day. The average adherence rate for treatments taken only once daily is nearly 80 percent, compared to about 50 percent for treatments that must be taken 4 times a day.[9]
- Patients commonly improve their medication-taking behavior in the days just before and after an appointment with a physician.[9]

Not Taking Medicines As Prescribed Increases Health Care Costs And Exacts A Significant Human Toll. Controlling For Other Relevant Factors, Poor Adherence Is Associated With Increased Hospitalizations, Nursing Home Admissions, Physician Visits, And Avoidable Health Care Costs.

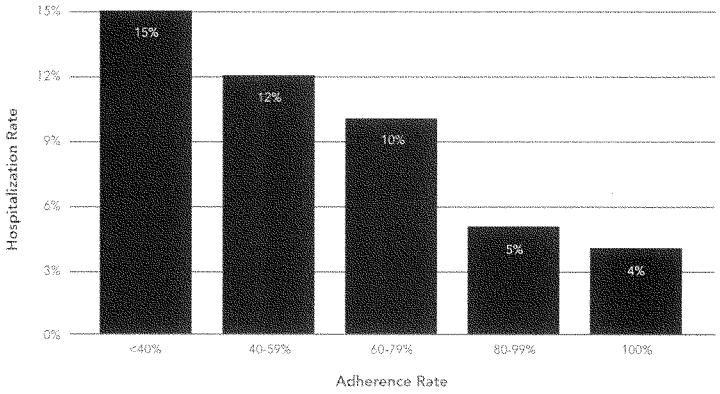
- A meta-analysis combining the results of numerous studies found that relative to patients with high levels of adherence, the risk of poor clinical outcomes—including hospitalization, rehospitalization, and premature death—among nonadherent patients is 5.4 times as high among those with hypertension, 2.8 times as high among those with dyslipidemia, and 1.5 times as high among those with heart disease.[10]
- Patients with diabetes who did not consistently take their diabetes medicines as prescribed were 2.5 times more likely to be hospitalized than those who followed their prescribed treatment regimens more than 80 percent of the time.[10] See Figure 2.
- Nonadherence has also been associated with as many as 40 percent of nursing home admissions and with an additional $2,000 a year per patient in medical costs for physician visits.[10]
- In one study of patients with high blood pressure, nonadherent patients were 7 percent, 13 percent, and 42 percent more likely to develop coronary disease, cerebrovascular disease, and chronic heart failure, respectively, over a 3-year period when compared to those who took their antihypertensive medicines as directed. Nonadherent patients were also 17 percent more likely to be hospitalized and had an average cost of hospitalization that exceeded that of an adherent patient by $3,575. Researchers estimated that total hospitalization costs could have been reduced by more than $25 million if nonadherent patients had been compliant with their treatment regimens.[11]

TABLE 1: MAJOR PREDICTORS OF POOR ADHERENCE TO MEDICINES

Patient-Related Limitations	Barriers to Care or Medicine
Psychological problems, particularly depression	Poor relationship between patient and provider
Cognitive impairment	Missed appointments
Asymptomatic disease	Lack of health insurance
Inadequate follow-up or discharge planning	Cost of copayment or coinsurance
Side effects of medicine	Complexity of treatment
Patient lacks belief in benefit of treatment	Access restrictions (e.g., formularies, utilization management)
Patient lacks insight into the illness	

Source: Adapted from L. Osterberg and T. Blaschke, "Adherence to Medicine," *New England Journal of Medicine*, August 2005.

FIGURE 2: RELATIONSHIP BETWEEN ADHERENCE AND HOSPITALIZATION IN PATIENTS WITH DIABETES



Source: D.T. Lau and D. P. Nau, "Oral Antihyperglycemic Medication Nonadherence and Subsequent Hospitalization Among Individuals with Type 2 Diabetes," *Diabetes Care*, September 2004.

- In 1994, the economic impact of nonadherence was estimated at $100 billion annually, including costs from nursing home admissions and avoidable hospitalizations.[xv] A more recent estimate, based on a 2004 synthesis of the literature, puts the cost of nonadherence closer to $300 billion per year.[xvi] Other research indicates that 33 to 69 percent of medicine-related hospital admissions are caused by poor adherence, with a resulting estimated cost as high as $100 billion a year.[xvii]
- An examination of the relation between adherence to medicines and medical care utilization in a population with employer-sponsored insurance showed that hospitalization rates were significantly lower for patients with high adherence. Overall, improving adherence to prescribed medicines for diabetes, cholesterol, and blood pressure control resulted in $4 to $7 reductions in total health costs for every additional dollar spent on medicines.[xviii]

Medicines That Lower The Number Of Pills Per Day Needed To Achieve The Desired Therapeutic Effect, Combine Individual Medicines Into A Single Pill, Or Reduce Side Effects Help To Eliminate Several Of The Known Barriers To Adherence.

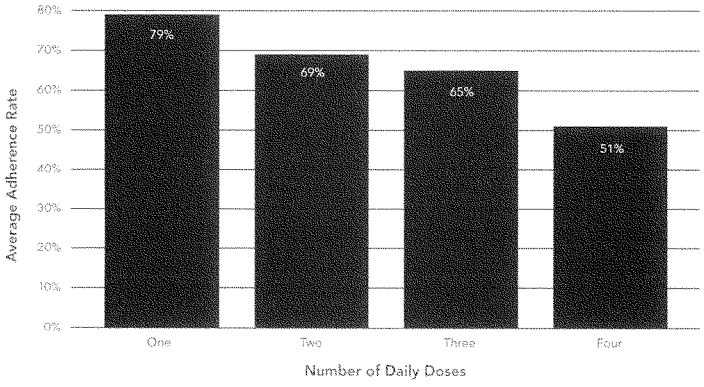
- Simple dosing (one pill, once daily) helps to maximize adherence, particularly when combined with provider reinforcement.[xix] The availability of extended-release versions of many medicines has made simplified dosage regimens possible, particularly for chronically ill patients who often take more than one medicine to manage their conditions.[xx] For example, 32 million Americans use three or more medicines daily, while the average 75-year old has 3 chronic conditions and takes 5 medicines.[xxi] See Figure 3.

- Compared to the use of 2 or more separate medications, fixed-dose combination therapies have been found to reduce patient nonadherence by 26 percent.[76] Studies have also reported that a fixed-dose combination of two diabetes medicines increased adherence by almost 13 percent compared with taking two separate medicines and that almost 80 percent of hypertensive patients taking a fixed-dose combination adhered to therapy, compared with less than 70 percent of patients taking two separate medicines.[77,78]
- Patients who report side effects from their medicines are 3.5 times more likely to not take their medicines as prescribed. In an analysis of patients' use of prescribed treatment for hypertension, patients taking medicines with fewer side effects had significantly better adherence over the four-year time period studied than patients on other medicines.[79]
- A study of a large group of commercially insured patients being treated for hypertension found significantly better adherence among patients taking angiotensin receptor blockers (ARBs) than among those taking several other types of antihypertensive medicines, despite a higher patient out-of-pocket payment for ARBs.[80] (As discussed subsequently, higher copays generally have been found to reduce adherence.)

Pharmacy Benefit Design Has A Direct Influence On Adherence To Medicines. Higher Copays And Restricted Benefits Lead To A Reduction In Use Of Medicines And Can Increase Total Medical Costs In The Long Run.

- A 2004 RAND study found that doubling copays for medicines reduced adherence by 25 percent to 45 percent. As patients' use of medicines declined due to increased copays, emergency room visits increased 17 percent and hospital stays rose 10 percent among patients with diabetes, asthma, or gastric acid disorder.[81]

FIGURE 3: IMPACT OF DAILY DOSING SCHEDULE ON ADHERENCE



Source: A.J. Claxton et al. "A Systematic Review of the Associations Between Dose Regimens and Medication Compliance." *Clinical Therapeutics*, August 2001.

- A major synthesis of the literature reported a 2 percent to 6 percent decrease in prescription drug spending for every 10 percent increase in cost sharing (depending on therapeutic class and patient outcomes). Researchers also found an unambiguous association between higher medication copays or cost-sharing and increased use of hospitalizations and emergency medical services for patients with congestive heart failure, lipid disorders, diabetes, and schizophrenia.[xxiii]
- Researchers estimate that eliminating copayments for patients at medium to high risk of heart disease would improve adherence sufficiently to avoid 90,000 hospitalizations and generate savings exceeding $1 billion.[xxiv]
- Compared to seniors with uncapped prescription coverage, seniors with a $1,000 annual benefit cap under a Medicare+Choice plan were less likely to use medicines appropriately and experienced unfavorable clinical outcomes. Use of medicines to treat hypertension, high cholesterol, and diabetes was 15 percent, 27 percent, and 21 percent lower, respectively, for patients subject to the cap relative to those with full coverage. The cap was also associated with poorer control of blood pressure, lipid levels, and glucose levels, and savings from reduced use of medicines were almost entirely offset by increases in the costs of hospitalizations and emergency care.[xxv]

Employers Working To Increase The Value Of Their Health Care Spending Are Investing In Incentives To Improve Adherence And Generating Positive Returns On Their Investments Through Productivity Gains And Lower Overall Health Care Spending.

- To provide an economic incentive for improved adherence by employees, in 2007 Pitney Bowes eliminated or reduced copays for statins and blood clot inhibitors. Adherence rates, which had been steadily declining, stabilized immediately after the program was implemented, resulting in a 3 percent to 4 percent increase in the average adherence rate relative to a control group whose copays did not change. Lower cost-sharing was also associated with an immediate 17 percent

to 19 percent increase in the odds that employees were "fully adherent," meaning that they took medicines as directed 80 percent or more of the time.[xxvi] Several years earlier, Pitney Bowes also reduced employee costs for all prescribed diabetes medicines and supplies, resulting in a 6 percent decrease in direct health care costs per participant with diabetes.[xxvii]
- Three other employer groups who eliminated or reduced copayments for insulin and all oral diabetes medicines all saw significant increases in adherence for their employees with diabetes. Relative to employees whose copayments for diabetes medicines did not change, those whose copayments were waived or reduced were more likely to fill new prescriptions and more likely to continue their diabetes treatment over time.[xxviii]
- According to research by Chernew and colleagues, an employer implementing a disease management program among 2 groups of employees found that when the disease management program was combined with economic incentives for 4 classes of chronic disease medications, it reduced nonadherence by 7 percent to 14 percent.[xxix] Additional research by these authors indicates that this increase in employee adherence led to reduced use of other medical care, thus offsetting the costs associated with the additional use of medicines encouraged by the program.[xxx]
- Using claims data from 17 employers, researchers at the Integrated Benefit Institute found that high cost sharing for rheumatoid arthritis (RA) medications decreased adherence and led to increased incidence and longer duration of short-term disability leave. Researchers estimated that lowering patient copays would improve medication adherence, reducing lost productivity among workers with this disease by 26 percent.[xxxi]

Health Insurance Plans And Pharmacy Benefit Managers Also Recognize The Value Of Improving Patient Adherence And Are Experimenting With A Range Of Efforts To Encourage Patients To Use Their Medicines As Directed:

- In 2010, UnitedHealthcare announced that it would reduce copayments by $20 for patients who refilled their asthma and depression medicines on time. According to the CEO of UnitedHealth Pharmaceutical Solutions, "Patients with chronic diseases such as asthma and depression who take their medicines regularly and who comply with prescribed treatments are likely to stay healthier. They not only feel better, they can potentially avoid costly medical problems that could result from delaying appropriate therapy."[4] UnitedHealthcare also offers employers a plan option to provide diabetes medicines at no charge to patients who take steps to manage their condition and participate in wellness coaching.[5]
- Working with researchers at the University of Pennsylvania, Aetna is studying whether giving patients a chance to win cash prizes will improve medication adherence. Each day a patient properly takes their medicine, as measured by a computerized pill box, they are eligible to win either $10 or $100. By paying patients a modest incentive to improve adherence upfront, the insurer hopes to save the much larger costs of hospitalization down the road.[6]
- Recognizing that "[i]mproved adherence is the hallmark of better quality care, healthier patients, and reduced overall medical costs," Express Scripts is testing a program to predict in advance which patients are likely to discontinue their medicines, allowing the pharmacy benefit manager to intervene before patients become nonadherent. Interventions will be tailored to the needs of the specific patient and may include reminders, pharmacist consultations, lower copays, and automatic home delivery of refilled prescriptions.[7]
- The Center for Connected Health, a division of Partners Healthcare, is experimenting with wireless electronic pill bottles to remind patients with high blood pressure to take their medication. Pill bottles are topped with special caps that signal patients with light and sound. An embedded wireless connection enables the cap to send automated calls to patients to inform them of missed doses and can also provide weekly progress reports and refill reminders. The caps also share adherence data with physicians and a social network if the patient chooses. The ongoing study measured a 27 percent higher rate of medication adherence compared to controls.[8]

Conclusion

Improving adherence holds great potential to contribute to better health outcomes and more effective chronic care management. In the private sector, forward-looking employers are taking steps to improve adherence, particularly among workers with chronic illnesses.[9] In Medicare and Medicaid, improved adherence can be pursued through Medicare Part D medication therapy management programs, care transition medication reviews focused on high-risk beneficiaries, testing models "utilizing medication therapy management services" through the CMS Innovation Center, greater adoption of health information technology and more robust electronic exchange of information through the EHR Incentive Program, and a range of newly-established grant, demonstration, and pilot programs to encourage greater care coordination. Many of these initiatives include quality targets likely to require improved medication adherence.

Efforts to improve adherence represent win-win solutions in which patients, employers, insurers and the public all benefit.

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HEALTH

More Balk at Cost of Prescriptions

By JONATHAN D. ROCKOFF

Updated Oct. 12, 2010 12:01 a.m. ET

Pharmacy clerk Hillary Peterson at City Drug Co. in Huntington, Tenn., where the owner says the shelves are full of unclaimed prescriptions. *Christopher Berkey for The Wall Street Journal*

Growing numbers of Americans with health insurance are walking away from their prescriptions at the pharmacy counter, the latest indication that efforts to contain costs may be curbing health-care consumption.

Journal Community ›

A review of insurance-claims data shows that so-called abandonment—when a patient refuses to purchase or pick up a prescription that was filled and packaged by a pharmacist—was up 55% in the second quarter of this year, compared with four years earlier.

The phenomenon coincides with rising co-payments for many drugs and increasing enrollment in high-deductible insurance plans that require patients to pay hundreds or thousands of dollars out of pocket before

insurance kicks in.

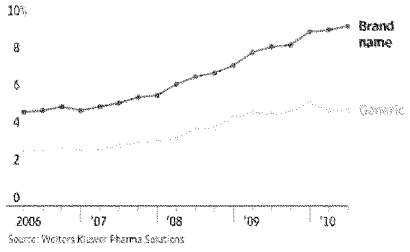
Patients are deserting prescriptions for the most expensive drugs most often, according to the review by Wolters Kluwer Pharma Solutions, a health-care data company. For instance, nearly one in 10 new prescriptions for brand-name drugs were abandoned by people with commercial health plans in the quarter, up 88% from four years earlier, when the data were first tracked and before the recession began. Abandonment of generic drugs was higher, too, according to the data.

The trend is driven in part by higher out-of-pocket costs for covered medicines, pharmacists and Wolters Kluwer officials say. The average co-pays for brand-name drugs such as cholesterol fighter Lipitor rose to $28 a prescription this year, an 87% jump from 2000, according to the Kaiser Family Foundation. Some co-pays can be as high as $100.

"More and more people are questioning spending that much money and whether it's going to make a difference, and rationalizing it's OK" to forgo their prescriptions, said Anthony Coniglio of OPUS Pharma Consulting, who advises drug makers on helping patients to get and take their medicines. Doctors worry patients will suffer serious and costly consequences if they don't take medicines they need. Also, the failure to pick up prescriptions is likely to put somewhat of a dent in drug-company revenue.

The abandonment rates come from an analysis of 80 million claims that pharmacies make each month for payment, about 40% of the total market. Wolters Kluwer collects the data from more than 24,000 independent and chain pharmacies. Drug makers use abandonment statistics to assess the reasons for lost sales.

Prescription-drug use had long been considered immune from financial pressures, because people get sick regardless of the economy's ups and downs. But growing evidence aside from the abandonment data suggests price is increasingly a factor.



At City Drug Co. in Huntingdon, Tenn., shelves behind the counter are crowded with unclaimed prescriptions, said owner Tim Tucker. The pharmacy puts back more than 100 abandoned prescriptions each week, about a quarter of those its pharmacists fill, up from seven a week just a half-year ago, Mr. Tucker said.

Many are for drugs crucial to people's health, such as antibiotics like Levaquin, and Nexium for bleeding ulcers, but customers balk when told their share of the price, Mr. Tucker said.

"They just say, 'I can't afford it. I can't get it.' And they turn around and walk away," he said.

Mark Spiers, chief executive of Wolters Kluwer, points to efforts by employers and health plans to control fast-growing health-care spending by shifting more costs to consumers. The out-of-pocket costs,

combined with people's sense they can't afford it, is causing some to make "real consumption choices about prescriptions versus other goods for their home," Mr. Spiers said.

High-deductible health plans, with their lower premiums, are another factor. Nearly three times as many people enrolled in such plans in 2010 compared with four years earlier, the Kaiser Family Foundation found.

> There is no transparency at all regarding medical costs and it is terribly difficult to determine medical costs in advance. Comparing health insurance plans is no easier. People cannot control costs unless they understand them.
>
> —Eric Rosenthal

Among them: Sharalee Brockway, a bank teller in Great Falls, Mont. After switching employers in April, Ms. Brockway said, she chose a high-deductible plan for herself and her 12-year-old son because it took less out of her paycheck. The next month, when she went to pick up asthma medicine for her son and an antidepressant for herself, the pharmacist told her it would cost more than $335.

"I said, 'I can't afford that,' " recalled Ms. Brockway, who left the prescriptions at the pharmacy. She returned later and bought a less-expensive prescription for her son. "I didn't want him to not have it, because [the asthma] affects him so much."

Since then, Ms. Brockway arranged to get help covering drug expenses through the HealthWell Foundation, which helps low-income patients with insurance.

The foundation, which receives funding from pharmaceutical companies, among other donors, received 55,135 applications from people seeking help with co-pays in the first six months of this year, up 23% from the same period last year, it said.

Volume is also increasing at drug makers' assistance programs. Companies that help patients with co-pays typically pay a quarter to half of the cost, said Mark Calabrese, who helps set up and run the programs. His firm, marketing consultant Cegedim Relationship Management, is processing more than 500,000 claims for discounts a month, up from 300,000 at the end of last year.

Drug makers declined to comment.

Anne Peters, director of the University of Southern California's Clinical Diabetes Program, is already seeing an impact in some patients. They lost control of their blood-sugar levels after either abandoning Lantus insulin prescriptions or spacing out its use because of the expense, she said.

In response, Dr. Peters is prescribing a less-expensive insulin sold at Wal-Mart Stores Inc. A 10ml vial of Lantus costs $111.88 on drugstore.com, while Wal-Mart charges $24.88 for the same size vial of Humulin ReliOn insulin.

"It's not necessarily the insulin I would have chosen for them—because it's not long-acting—but it's much less expensive," she said. If blood-sugar levels stay high too long, patients can experience serious and costly medical problems, such as kidney damage, loss of eyesight and slow-healing foot wounds that can require amputation.

Write to Jonathan D. Rockoff at jonathan.rockoff@wsj.com

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SHOPPER'S GUIDE TO PRESCRIPTION DRUGS – NUMBER 7

Take Meds Faithfully

It's often referred to as the nation's "other drug problem." A surprisingly large number of people who are prescribed a medicine – including for a chronic illness – do not take it as directed by their doctor or pharmacist. Some people never fill the prescription. Some quit taking a drug before they are supposed to. Others forget to take doses. And some people take much less or more of a medicine than they should.

This lack of "adherence" or "compliance" – as doctors refer to it – is a substantial medical problem of its own. It causes unnecessary hospitalizations and suffering, hundreds of thousands of premature deaths per year, and tens of billions of dollars in preventable health care costs.

Doctors and drug companies (who have a large financial stake in the matter) have been trying to tackle the problem for decades. But studies show little progress. The consensus now is that it is a much more complex problem than previously appreciated, having to do mostly with hard-to-change human behaviors and fear of, or the experience of, medication side effects. Money also plays a big role: millions of people everyday are unable to take their medicines as directed because they simply can't afford them.

This brief gives you: (a) some background on the problem; (b) advice on how to talk to your doctor and pharmacist about your drugs; and (c) how and why to become a more responsible patient if you take medicines regularly.

BACKGROUND

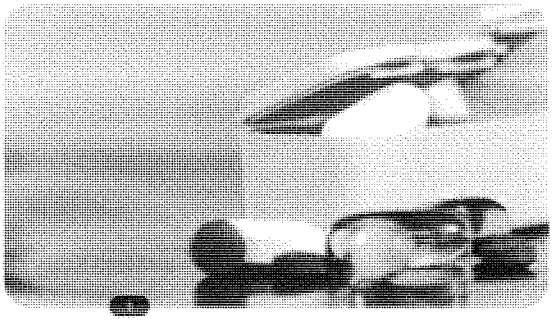
While there is no overall statistic on how many adults who get a prescription fail to take it as requested by their doctor, most studies indicate that the number is around 45 to 55 percent. But in one recent large-scale survey of almost 77,000 adults, fully three-quarters who got a prescription in the previous 12 months admitted that they had not filled a prescription, skipped a dose, forgotten to take a drug, or taken less than the recommended amount.

Of most concern are people with chronic diseases. For example, one major study of the medical records of 17,000 people who had had a heart attack found that only about 45 percent were still taking a drug called a beta-blocker one year after the attack. Beta-blockers substantially lower the risk of another heart attack and death and are generally prescribed to all heart attack victims. One surprising finding from the study was that only 70 percent were taking a beta-blocker 30 days after their attack – indicting that 30 percent either never filled the initial subscription or stopped taking it very early.

Another recent study of people diagnosed with coronary artery disease (clogged arteries) found that only about 40 percent were faithfully taking three drugs now widely recommended for all such patients: a beta-blocker, a statin to lower cholesterol, and a type of drug called an ACE Inhibitor.

Other studies have found that from 25 percent to half of people with high blood pressure, high cholesterol, or diabetes stop taking their medicines as directed within a year or so.

People with mental health conditions are also highly prone to non-compliance. A recent study by researchers at the University of California, San Diego found that only 40 percent of schizophrenics were following their drug treatment regimen.



WHY IT MATTERS

The consequences of drug "non-compliance" can be serious. In one of the most thorough studies to date – of 31,455 heart attack survivors aged 66 or older – those who did not take their cholesterol-lowering drugs as advised, or stopped taking them, had a 25 percent higher rate of death after just two and a half years. In the same study, those who did not take beta-blockers as advised had about a 10 percent greater risk of death.

In the UC San Diego study referred to above, 35 percent of people with schizophrenia who did not adhere to their medicities had to be hospitalized compared to 14 percent who took their medicines as directed.

Big numbers get tossed around about the financial impact of non-compliance – in prolonged illness, extra medical costs, and worker absenteeism. The number often put forth by drug companies is $100 billion per year. But, in truth, it's very difficult to precisely assess the financial impact. There is little doubt it is substantial.

The three main reasons people don't take medicines as directed are cost, side effects, and a perceived lack of benefit from the drug.

In a 2006 survey of 1,001 adults aged 50 and older by *Consumer Reports Best Buy Drugs*, 14 percent reported not filling a prescription because of cost and 15 percent said they had skipped doses because of the drug's expense. One quarter were non-compliant due to side effects and 20 percent because they didn't think the drug was doing any good.

Also relevant, nearly half of respondents reported having at least one experience where they asked their doctor to switch a medicine for cost-related reasons.

A study published in 2004 in the *American Journal of Public Health* and based on surveys of 4,264 people over age 50 with at least one chronic disease found similar results: 18 percent reported cutting back on their medicines because of cost and 14 percent reported using less medicine every month than their doctor had prescribed.

In the most recent data on this issue, reported in August 2007, one in five seniors enrolled in Medicare (Part D) drug benefit plans had not filled or had delayed filling a prescription due to cost in 2006. The finding was based on a survey of 16,000 seniors.

ENTRENCHED BEHAVIORS

Two other recent surveys – one of almost 77,000 adults and the other of 1,000 adults – focused more on the behavioral or "attitudinal" reasons

WHAT SOCIETY AND THE HEALTH SYSTEM COULD DO

Actions and changes that could help enhance drug compliance:

- No co-pays or cost-sharing (under insurance plans) on low-cost generic medicines deemed important for disease control and prevention, such as drugs to treat high blood pressure, high cholesterol, and diabetes.
- Adjustment of cost-sharing based on ability to pay and health risk. For example, heart attack victims could get drugs to prevent another attack at very low cost or no cost.
- Discount programs for consumers who renew their prescriptions on time.
- More and better outreach services to help get people who can not afford their medicines enrolled in pharmacy assistance programs.
- Toll-free telephone help lines to respond to questions about medication use, side effects, and interactions – staffed by pharmacists.
- More routine use and wider acceptance of mail-order prescriptions for people with chronic diseases. Mail order makes it easier to get refills every 90 days.
- Closer monitoring of refills by pharmacy benefit managers (PBMs), with follow-up of people who do not get refills on time.
- Calls or emails from your doctor's office, pharmacist, or pharmacy benefit manager following up on your use of a drug, any side effects or problems, and reminding you when it's time to get a refill.
- More use of special "pharmacy care" programs that help people with multiple chronic conditions manage their complex pharmacy needs. Studies have shown such programs highly successful in enhancing compliance.
- Daily emails, cell phone or PDA (personal digital assistant) text reminders to take your medicines as directed. (Some analysts think this might be overkill but in one survey 28 percent of consumers thought it was a good idea.)
- Wider use of electronic prescription pills boxes and reminder devices that can tell you when to take your medicines.

behind non-compliance. In the smaller survey, fear of side effects was widespread: 70 percent said they were "very concerned" about the side effects of taking prescription medicines on a long-term basis. In the larger survey, 30 percent reported not taking their medicines as prescribed for behavioral reasons. Among these were:

- I didn't think I needed the medicine.
- I didn't think the medicine was helping me.
- My symptoms went away.
- I felt better.
- I felt sick from taking the medicine.

Surveys also consistently find that a quarter to half of people who do not take their medicines as prescribed do *not* inform their doctors.

Doctors agree on the scope of the problem, and on the reasons people don't take their drugs as prescribed. In one survey, 71 percent of doctors agreed with the statement, "my patients can not pay for all their medicines." Sixty-two percent agreed that "my patients are taking so many medicines that it's hard for them to take all of them properly." And 26 percent agreed with the statement, "my patients think they know better than I do what's good for them."

Non-compliance is also substantially due to the fact that many chronic conditions have no or few symptoms. In such cases, taking a pill everyday that may have side effects can actually seem like an irrational thing to do.

The two most often-cited examples are high blood pressure and high cholesterol. Unlike pain, asthma, allergies, or depression, most people with either condition would not even notice the effects of skipping doses or not taking their pills. And the affects of not taking the medicine would not be evident until they had a heart attack or stroke.

As doctors frequently complain, telling a patient this is one thing. But making them change their behavior if they experience side effects from a drug or can't afford it is a quite another matter.

BECOMING MORE RESPONSIBLE

Taking your medicines as directed may be one of the most important health decisions in your life. It may spare you discomfort, pain, disability, and unnecessary health care expenses. And it may prolong your life – in some cases for many years.

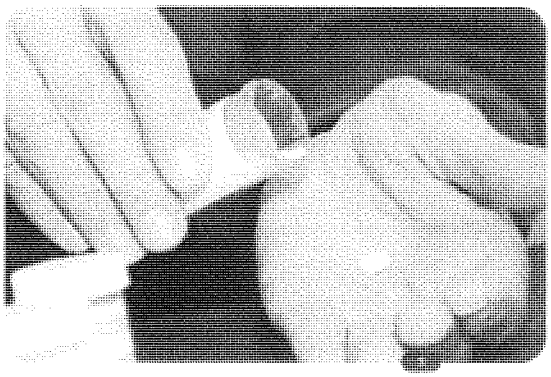
There is a lot that society and the health care system can and should do to address the compliance problem – especially as it pertains to the cost of drugs. (See the box on page 2.) But behavior change on the part of consumers/patients (and doctors) is critical.

The most important change is to get into the firm habit of:

- Having a full discussion with your doctor and/or pharmacist about any and all drugs you are taking – what they do, how critical they are to your short- and long-term health, how to take them, the side effects they may cause, and how to cope with any side effects. If your doctor seems rushed or reluctant to talk about these issues, ask him or her if you can set up an appointment devoted to understanding your medicines better and airing concerns.
- Contacting your doctor or doctor's office if you experience side effects that are not tolerable, can not afford your medicines as prescribed, or are having trouble taking your medicines as prescribed.

On the cost front, your doctor and pharmacist may be able to substitute a less expensive medicine – a generic, for example – that will work just as well. If a less expensive drug is not an option, most pharmaceutical companies have assistance plans that will supply the drug for free or subsidize its cost for people with low and modest incomes. (See our brief titled "Prescription Drug Assistant Programs" at www.CRBestBuyDrugs.org.)

Be aware, though, that numerous studies have consistently shown that doc-



tors do not take the cost of medicines or a patient's insurance coverage into account when prescribing. In fact, they are often reluctant to bring financial issues up at all. As a result, it falls to you to do so.

Don't be reluctant. Ask yourself: would I rather be embarrassed to tell a doctor that I can't afford a drug or risk my health because I can't bring it up?

Also, be honest and open with your doctor about any fears you have and any lifestyle issues that could be obstacles to taking a drug as prescribed. As the survey results discussed above show, most people fear side effects. If your doctor and pharmacist know you are especially fearful about this, they can work with you to deal with the problem – for example, by calling periodically to check up on you.

We advise making a written list of issues to discuss with your doctor at every office visit. This should include an accounting of problems you have had in the past or have now with your medicines. Keep track of side effects in writing, too. The few hours a month you might spend making such notes will go a long way to making your visits with your doctor more productive. (More doctors these days are also open to email consults, which is a good way to report drug side effects.)

Most importantly, every doctor you see should be aware of *all* the medicines you take. Drug interactions have become a common and serious problem as more people (and especially seniors) take multiple medicines for chronic conditions. And this problem goes hand-in-hand with lack of compliance. As drug interactions raise the risk of side effects, people stop taking or cut back on one or more of their medicines.

Be sure to talk to your doctor about cultural issues as well if you are a member of a minority group. This has emerged as a serious impediment to drug compliance. For example, surveys show widespread stigmatization of people with mental illnesses among Latin Americans. This leads many in the Latino community to shun the drug treatment of depression, schizophrenia, and other psychiatric disorders.

GET WRITTEN INFORMATION – AND READ IT!

Talking with your doctor is critical, but we strongly advise also taking the time (it doesn't take long!) to read about your medicines, and especially the side effects they may cause.

This is much easier today. A wealth of information on prescription drugs is on the Internet, just a few clicks away. The FDA Web site (FDA.gov) is a valuable primary source, as are medlineplus.gov and CRBestBuyDrugs.org. Advice: skip the "sponsored links" on most major search engine drug pages; these are mostly drug company-funded.

Unfortunately, doctors don't usually hand out written information on the drugs they prescribe. Pharmacists do, and reading that material is important. But it is not as helpful as it should be. That's because it is in part controlled by drug companies (which tend to underplay possible side effects) and also may not be as up to date as information you can obtain on the Internet.

Pill books – at books stores everywhere and many pharmacies, too – are a tried and true source of information. Take care to purchase one that has been published or updated in the last year or two. Even then, we advise supplementing information in books with information from Web sites.

Finally, new gizmos to help you take your medicines are proliferating. Electronic pill reminder devices are available at most large pharmacies and electronics stores. These are essentially elaborate alarms that can be programmed to let you know when it's time to take each pill. Some come attached to actual pill containers. Most cost in the range of $30 to $50. The Web site www.e-pill.com offers links to a range of these products.

We have not formally vetted electronic pill reminders and can not say whether they are helpful or not. Certainly, such devices would *not* be useful if you don't regularly use electronic devices, or have a disability that would prevent you from using one. In that case, a plain old non-electronic plastic pill box may work just as well.

THE SHOPPER'S GUIDE TO PRESCRIPTION DRUGS SERIES

This series is produced by Consumers Union and *Consumer Reports Best Buy Drugs*, a public information project supported by grants from the Engelberg Foundation and the National Library of Medicine of the National Institutes of Health. The project's free Web site is www.CRBestBuyDrugs.org.

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Overall Pharmacy Spend Increased Only 3.2%, Narcotics Utilization Dropped in 2011

PMSI's 2012 Annual Drug Trends Report reveals latest industry insights

In the *2012 Annual Drug Trends Report*, PMSI reveals many insightful trends in workers' compensation. The *Report* focuses on 10 notable areas influencing pharmacy spend within PMSI's customer base and the industry as a whole, such as Average Wholesale Price (AWP), Brand and Generic Mix, Mail Order Utilization, and Narcotics Utilization. Here's a quick synopsis of some of the more interesting findings:

Overall Pharmacy Spend Increased Slightly But at a Rate Much Lower than AWP

Average spend per injured worker increased only 3.2% in 2011. Interestingly, this rate of increase was far less than the 2011 average AWP increase of 6.3%. AWP continued to be a major driver of pharmacy cost increases, with an average brand AWP increase of 3.9% and a generic AWP increase of 8.3%.

Cost Savings from Mail Order Continued to Outpace Retail

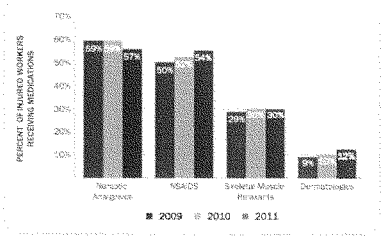
Mail order utilization continues to be a major cost containment program for pharmacy. The average mail order cost per day of supply in 2011 was approximately 21% less than the average retail cost per day of supply. As a result, every 10% shift in days of supply from retail to mail order during the year resulted in a 0.5% reduction in spend. PMSI's clients continued to aggressively use mail order in 2011, and achieved an average mail order penetration of 27.5%.

Narcotics Utilization Decreased

In 2011, the use of narcotic analgesics decreased by 1.7%, as measured by morphine equivalents (me) per injured worker per day. The biggest reduction occurred in the area of long-acting narcotics, which saw a utilization decrease of 68 me per day to 64 me per day.

Additionally, PMSI found a decrease in the use of narcotic analgesics within the first year of injury—a trend that has continued over the last three years. The percent of injured workers using narcotic analgesics in the first year after injury dropped from 59% in 2010 to 57% in 2011, as illustrated below.

Since narcotics make up more than a third of all workers' compensation prescriptions dispensed, this decline demonstrates the effectiveness of PMSI's MedAssess™ clinical programs by addressing issues with appropriate narcotic selection, dose, and duration of therapy.



2012 Annual Drug Trends Report now available

Every year, PMSI analyzes the transactions from its book of business and reports the results in the *Annual Drug Trends Report*. This year's report is a reliable resource for industry trends and also a testament to PMSI's cost containment strategies and clinical programs. Request an electronic or print copy at: www.pmsionline.com/Annual-Drug-Trends-Report

THE NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

DRUG THERAPY

Adherence to Medication

Lars Osterberg, M.D., and Terence Blaschke, M.D.

Drugs don't work in patients who don't take them.

— C. Everett Koop, M.D.

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ADHERENCE TO (OR COMPLIANCE WITH) A MEDICATION REGIMEN IS generally defined as the extent to which patients take medications as prescribed by their health care providers. The word "adherence" is preferred by many health care providers, because "compliance" suggests that the patient is passively following the doctor's orders and that the treatment plan is not based on a therapeutic alliance or contract established between the patient and the physician. Both terms are imperfect and uninformative descriptions of medication-taking behavior. Unfortunately, applying these terms to patients who do not consume every pill at the desired time can stigmatize these patients in their future relationships with health care providers. The language used to describe how patients take their medications needs to be reassessed, but these terms are still commonly used.[1] Regardless of which word is preferred, it is clear that the full benefit of the many effective medications that are available will be achieved only if patients follow prescribed treatment regimens reasonably closely.

Rates of adherence for individual patients are usually reported as the percentage of the prescribed doses of the medication actually taken by the patient over a specified period. Some investigators have further refined the definition of adherence to include data on dose taking (taking the prescribed number of pills each day) and the timing of doses (taking pills within a prescribed period). Adherence rates are typically higher among patients with acute conditions, as compared with those with chronic conditions; persistence among patients with chronic conditions is disappointingly low, dropping most dramatically after the first six months of therapy.[2-4] For example, approximately half of patients receiving hydroxymethylglutaryl–coenzyme A reductase inhibitor therapy will discontinue their medication within six months of starting the therapy.[5]

The average rates of adherence in clinical trials can be remarkably high, owing to the attention study patients receive and to selection of the patients, yet even clinical trials report average adherence rates of only 43 to 78 percent among patients receiving treatment for chronic conditions.[3,6,7] There is no consensual standard for what constitutes adequate adherence. Some trials consider rates of greater than 80 percent to be acceptable, whereas others consider rates of greater than 95 percent to be mandatory for adequate adherence, particularly among patients with serious conditions such as infection with the human immunodeficiency virus (HIV). Although data on adherence are often reported as dichotomous variables (adherence vs. nonadherence), adherence can vary along a continuum from 0 to more than 100 percent, since patients sometimes take more than the prescribed amount of medication.[8-10]

The ability of physicians to recognize nonadherence is poor, and interventions to improve adherence have had mixed results. Furthermore, successful interventions gener-

ally are substantially complex and costly.[11-14] Poor adherence to medication regimens accounts for substantial worsening of disease, death, and increased health care costs in the United States.[15-19] Of all medication-related hospital admissions in the United States, 33 to 69 percent are due to poor medication adherence, with a resultant cost of approximately $100 billion a year.[15,17,20,21] Participants in clinical trials who do not follow medication regimens or placebo regimens have a poorer prognosis than subjects in the respective groups who do.[22-24] Adherence to medication and placebo regimens, therefore, both predict better outcomes, and collecting adherence data from subjects is now considered an essential part of clinical trials.[25,26] Given the magnitude and importance of poor adherence to medication regimens, the World Health Organization has published an evidence-based guide for clinicians, health care managers, and policymakers to improve strategies of medication adherence.[27]

MEASURES OF ADHERENCE

Adherence to medication regimens has been monitored since the time of Hippocrates, when the effects of various potions were recorded with notations of whether the patient had taken them or not. Even today, patients' self-reports can simply and effectively measure adherence.[28,29] The methods available for measuring adherence can be broken down into direct and indirect methods of measurement (Table 1). Each method has advantages and disadvantages, and no method is considered the gold standard.[30,31]

Directly observed therapy, measurement of concentrations of a drug or its metabolite in blood or urine, and detection or measurement in blood of a biologic marker added to the drug formulation are examples of direct methods of measures of adherence. Direct approaches are expensive, burdensome to the health care provider, and susceptible to distortion by the patient. However, for some drugs, measuring these levels is a good and commonly used means of assessing adherence. For instance, the serum concentration of antiepileptic drugs such as phenytoin or valproic acid will probably reflect adherence to regimens with these medications, and subtherapeutic levels will probably reflect poor adherence or suboptimal dose strengths.

Indirect methods of measurement of adherence include asking the patient about how easy it is for him or her to take prescribed medication, assessing clinical response, performing pill counts, ascertaining rates of refilling prescriptions, collecting patient questionnaires, using electronic medication monitors, measuring physiologic markers, asking the patient to keep a medication diary, and assessing children's adherence by asking the help of a caregiver, school nurse, or teacher. Questioning the patient (or using a questionnaire), patient diaries, and assessment of clinical response are all methods that are relatively easy to use, but questioning the patient can be susceptible to misrepresentation and tends to result in the health care provider's overestimating the patient's adherence.

The use of a patient's clinical response as a measure is confounded by many factors other than adherence to a medication regimen that can account for clinical outcome. The most common method used to measure adherence, other than patient questioning, has been pill counts (i.e., counting the number of pills that remain in the patient's medication bottles or vials). Although the simplicity and empiric nature of this method are attractive to many investigators, the method is subject to many problems, because patients can switch medicines between bottles and may discard pills before visits in order to appear to be following the regimen. For these reasons, pill counts should not be assumed to be a good measure of adherence.[8,9,32] In addition, this method provides no information on other aspects of taking medications, such as dose timing and drug holidays (i.e., omission of medication on three or more sequential days), both of which may be important in determining clinical outcomes.

Rates of refilling prescriptions are an accurate measure of overall adherence in a closed pharmacy system (e.g., health maintenance organizations, the Department of Veterans Affairs Health Care System, or countries with universal drug coverage), provided that the refills are measured at several points in time.[33-35] A medical system that uses electronic medical records and a closed pharmacy can provide the clinician or research scientist with readily available objective information on rates of refilling prescriptions that can be used to assess whether a patient is adhering to the regimen and to corroborate the patient's responses to direct questions or on questionnaires.

Electronic monitors capable of recording and stamping the time of opening bottles, dispensing drops (as in the case of glaucoma), or activating a

Table 1. **Methods of Measuring Adherence.**

Test	Advantages	Disadvantages
Direct methods		
Directly observed therapy	Most accurate	Patients can hide pills in the mouth and then discard them; impractical for routine use
Measurement of the level of medicine or metabolite in blood	Objective	Variations in metabolism and "white-coat adherence" can give a false impression of adherence; expensive
Measurement of the biologic marker in blood	Objective; in clinical trials, can also be used to measure placebo	Requires expensive quantitative assays and collection of bodily fluids
Indirect methods		
Patient questionnaires, patient self-reports	Simple; inexpensive; the most useful method in the clinical setting	Susceptible to error with increases in time between visits; results are easily distorted by the patient
Pill counts	Objective, quantifiable, and easy to perform	Data easily altered by the patient (e.g., pill dumping)
Rates of prescription refills	Objective; easy to obtain data	A prescription refill is not equivalent to ingestion of medication; requires a closed pharmacy system
Assessment of the patient's clinical response	Simple; generally easy to perform	Factors other than medication adherence can affect clinical response
Electronic medication monitors	Precise; results are easily quantified; tracks patterns of taking medication	Expensive; requires return visits and downloading data from medication vials
Measurement of physiologic markers (e.g., heart rate in patients taking beta-blockers)	Often easy to perform	Marker may be absent for other reasons (e.g., increased metabolism, poor absorption, lack of response)
Patient diaries	Help to correct for poor recall	Easily altered by the patient
When the patient is a child, questionnaire for caregiver or teacher	Simple; objective	Susceptible to distortion

canister (as in the case of asthma) on multiple occasions have been used for approximately 30 years.[32,36-38] Rather than providing weekly or monthly averages, these devices provide precise and detailed insights into patients' behavior in taking medication, but they are still indirect methods of measuring adherence; they do not document whether the patient actually ingested the correct drug or correct dose. Patients may open a container and not take the medication, take the wrong amount of medication, or invalidate the data by placing the medication into another container or taking multiple doses out of the container at the same time. The cost of electronic monitoring is not covered by insurance, and thus these devices are not in routine use. However, this approach provides the most accurate and valuable data on adherence in difficult clinical situations and in the setting of clinical trials and adherence research[10,39] and has advanced our knowledge of medication-taking behavior.[40] Although certain methods of measuring adherence may be preferred in specific clinical or research settings, a combination of measures maximizes accuracy.[10,41,42]

EPIDEMIOLOGY OF MEDICATION-TAKING BEHAVIOR

Electronic medication-monitoring devices have provided very detailed information about the patterns of medication-taking behavior. Most deviations in medication taking occur as omissions of doses (rather than additions) or delays in the timing of doses.[11,43] Patients commonly improve their medication-taking behavior in the 5 days before and after an appointment with the health care provider, as compared with 30 days after, in a phenomenon known as "white-coat adherence."[44,45] Stud-

ies using these monitors have shown six general patterns of taking medication among patients treated for chronic illnesses who continue to take their medications. Approximately one sixth come close to perfect adherence to a regimen; one sixth take nearly all doses, but with some timing irregularity; one sixth miss an occasional single day's dose and have some timing inconsistency; one sixth take drug holidays three to four times a year, with occasional omissions of doses; one sixth have a drug holiday monthly or more often, with frequent omissions of doses; and one sixth take few or no doses while giving the impression of good adherence.[40,46]

Simple dosing (one pill, once daily) helps to maximize adherence, particularly when combined with frequent reinforcing visits, despite the fact that 10 to 40 percent of patients taking these simple regimens continue to have imperfect dosing.[47,48] In a large systematic review of 76 trials in which electronic monitors were used, Claxton and colleagues[7] found that adherence was inversely proportional to frequency of dose (Fig. 1), and patients taking medication on a schedule of four times daily achieved average adherence rates of about 50 percent (range, 31 to 71 percent).

IDENTIFYING POOR ADHERENCE

Indicators of poor adherence to a medication regimen are a useful resource for physicians to help identify patients who are most in need of interventions to improve adherence.[5,49,50] Table 2 lists major predictors associated with poor adherence. Race, sex, and socioeconomic status have not been consistently associated with levels of adherence.[59,61] When these predictors, listed in Table 2, are present, physicians should have a heightened awareness of the possibility of poor adherence, but even patients in whom these indicators are absent miss taking medications as prescribed. Thus, poor adherence should always be considered when a patient's condition is not responding to therapy.

The simplest and most practical suggestion for physicians is to ask patients nonjudgmentally how often they miss doses. Patients generally want to please their physicians and will often say what they think their doctor wants to hear. It can be reassuring to the patient when the physician tells them, "I know it must be difficult to take all your medications regularly. How often do you miss taking them?" This approach makes most patients feel comfortable in telling the truth and facilitates the identification of poor adherence. A patient who admits to poor adherence is generally being candid.[29,62] Patients should also be asked whether they are having any side effects of their medications, whether they know why they are taking their medications, and what the benefits of taking them are, since these questions can often expose poor adherence to a regimen.[63]

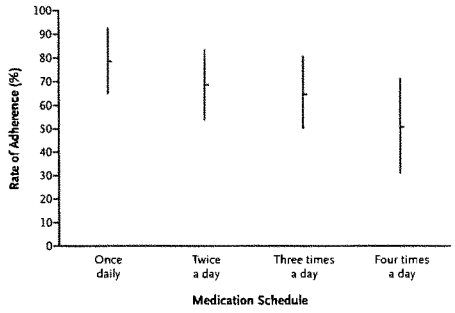

Figure 1. Adherence to Medication According to Frequency of Doses.
Vertical lines represent 1 SD on either side of the mean rate of adherence (horizontal bars). Data are from Claxton et al.[7]

BARRIERS TO ADHERENCE

Research on adherence has typically focused on the barriers patients face in taking their medications. Common barriers to adherence are under the patient's control, so that attention to them is a necessary and important step in improving adherence. In responses to a questionnaire, typical reasons cited by patients for not taking their medications included forgetfulness (30 percent), other priorities (16 percent), decision to omit doses (11 percent), lack of information (9 percent), and emotional factors (7 percent); 27 percent of the respondents did not provide a reason for poor adherence to a regimen.[64] Physicians contribute to patients' poor adherence by prescribing complex regimens, failing to explain the benefits and side effects of a medication adequately, not giving consideration to the patient's lifestyle or the cost of the medications, and having poor therapeutic relationships with their patients.[49,65-67]

More broadly, health care systems create barriers to adherence by limiting access to health care, using a restricted formulary, switching to a different formulary, and having prohibitively high costs for drugs, copayments, or both.[60,68,69] To improve the patient's ability to follow a medication regimen, all potential barriers to adherence need to be considered. An expanded view that takes into account factors under the patient's control as well as interactions between the patient and the health care provider and between the patient and the health care system will have the greatest effect on improving medication adherence (Fig. 2).[70,71]

INTERVENTIONS

Methods that can be used to improve adherence can be grouped into four general categories: patient education; improved dosing schedules; increased hours when the clinic is open (including evening hours), and therefore shorter wait times; and improved communication between physicians and patients. Educational interventions involving patients, their family members, or both can be effective in improving adherence.[72,73] Strategies to improve dosing schedules include the use of pillboxes to organize daily doses, simplifying the regimen to daily dosing, and cues to remind patients to take medications. Patients who miss appointments are often those who need the most help to improve their ability to adhere to a medication regimen; such patients will often benefit from assistance in clinic scheduling and what is called "cue-dose training" to optimize their adherence. Clinic-scheduling strategies to improve adherence include making follow-up visits convenient and efficient for the patient. Delays in seeing patients and problems with transportation and parking can undermine a patient's willingness to comply with a medication regimen and to keep follow-up appointments. Interventions that enlist ancillary health care providers such as pharmacists, behavioral specialists, and nursing staff can improve adherence.[12,74,75] Finally, enhancing communication between the physician and the patient is a key and effective strategy in boosting the patient's ability to follow a medication regimen.[11,18,76,77]

Most methods of improving adherence have involved combinations of behavioral interventions and reinforcements in addition to increasing the convenience of care, providing educational information about the patient's condition and the treatment, and other forms of supervision or attention.[12,78-80] Successful methods are complex and labor intensive, and innovative strategies will need to be developed that are practical for routine clinical use.[12] Given the many factors contributing to poor adherence to medication, a multifactorial approach is required, since a single approach will not be effective for all patients.[81,82] Table 3 lists some simple strategies for optimizing a patient's ability to follow a medication regimen.

Table 2. Major Predictors of Poor Adherence to Medication, According to Studies of Predictors.

Predictor	Study
Presence of psychological problems, particularly depression	van Servellen et al.,[51] Ammassari et al.,[52] Stilley et al.[53]
Presence of cognitive impairment	Stilley et al.,[53] Okuno et al.[54]
Treatment of asymptomatic disease	Sewitch et al.,[55]
Inadequate follow-up or discharge planning	Sewitch et al.,[55] Lacro et al.[56]
Side effects of medication	van Servellen et al.[51]
Patient's lack of belief in benefit of treatment	Okuno et al.,[54] Lacro et al.[56]
Patient's lack of insight into the illness	Lacro et al.,[56] Perkins[57]
Poor provider–patient relationship	Okuno et al.,[54] Lacro et al.[56]
Presence of barriers to care or medications	van Servellen et al.,[51] Perkins[57]
Missed appointments	van Servellen et al.,[51] Farley et al.[58]
Complexity of treatment	Ammassari et al.[52]
Cost of medication, copayment, or both	Balkrishnan,[59] Ellis et al.[60]

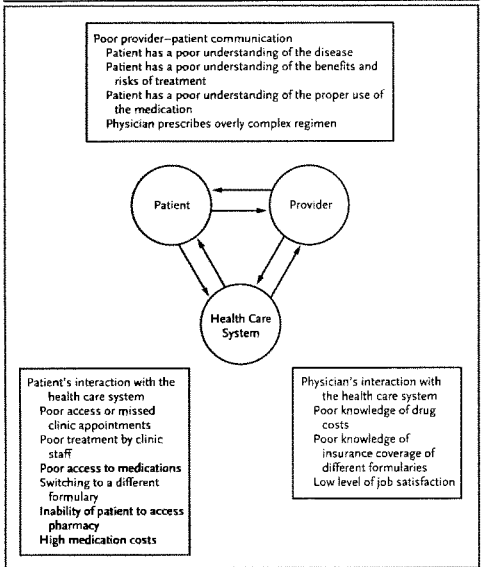

Figure 2. Barriers to Adherence.

The interactions among the patient, health care provider, and health care system depicted are those that can have a negative effect on the patient's ability to follow a medication regimen.

EXAMPLES OF CHALLENGES TO ADHERENCE

HIV INFECTION

In the treatment of patients with HIV infection or the acquired immunodeficiency syndrome, it is essential to achieve more than 95 percent adherence to highly active antiretroviral therapy (HAART) in order to suppress viral replication and avoid the emergence of resistance.[84,85] Achieving such high rates of adherence is very challenging to such patients, because their regimens include multiple, often expensive medications that have complex dosing schedules and may cause food interactions and side effects that result in poor tolerability. In addition, lifestyle factors and issues in the patient–provider relationship may make adherence difficult.[85]

Promising strategies for improving adherence to HAART that have been studied in randomized clinical trials include pharmacist-led individualized interventions, cognitive–behavioral educational interventions based on self-efficacy theory, and cue-dose training in combination with monetary reinforcement.[75,79] Cognitive–behavioral approaches have resulted in more than 90 percent of patients achieving 95 percent adherence, but these approaches require considerable resources, and adherence is typically not sustained after the intervention is withdrawn.[86,87] Federally funded trials of strategies to improve patients' ability to follow treatment regimens are ongoing, including the use of handheld devices, two-way pagers, medication vials equipped with alarms, and the enhancement of social and emotional support.[75]

HYPERTENSION

Consistent control of blood pressure requires that patients with hypertension follow medication and dietary regimens. However, antihypertensive therapy may have untoward side effects and result in little symptomatic relief, since hypertension often causes no symptoms. No matter how effectively the clinician communicates the benefits of antihypertensive therapy, patients are still ultimately responsible for taking their medications. Since adherence is enhanced when patients are involved in medical decisions about their care and in monitoring their care, the traditional model of the authoritarian provider should be replaced by the more useful dynamic of shared decision making by the health care provider and the patient.[78,88,89] The patient must actively participate in the selection and adjustment of drug treatment and in changes in lifestyle in order to maximize the usefulness of the therapeutic regimen. When feasible, self-monitoring of blood pressure can also enhance adherence.[78,90] Simplifying instructions to the patient and medication schedules is essential, and minimizing the total number of daily doses has been found to be more important in promoting adherence than minimizing the total number of medications.[48,91]

When inadequate adherence to medication has been identified and the available strategies for improving adherence have not achieved the target level of blood pressure, selecting "more forgiving" antihypertensive agents that either do not depend on half-life or have a longer half-life — drugs whose efficacy will not be affected by delayed or missed doses — will probably help to maintain a more stable blood pressure, despite imperfect adher-

Table 3. Strategies for Improving Adherence to a Medication Regimen.*

Identify poor adherence
Look for markers of nonadherence: missed appointments ("no-shows"), lack of response to medication, missed refills
Ask about barriers to adherence without being confrontational
Emphasize the value of the regimen and the effect of adherence
Elicit patient's feelings about his or her ability to follow the regimen, and if necessary, design supports to promote adherence
Provide simple, clear instructions and simplify the regimen as much as possible
Encourage the use of a medication-taking system
Listen to the patient, and customize the regimen in accordance with the patient's wishes
Obtain the help from family members, friends, and community services when needed
Reinforce desirable behavior and results when appropriate
Consider more "forgiving" medications when adherence appears unlikely†
Medications with long half-lives
Depot (extended-release) medications
Transdermal medications

* Information in this table was adapted from Osterberg and Rudd.[83]

† Forgiving medications are drugs whose efficacy will not be affected by delayed or missed doses.

ence.[40,46] When choosing among the major classes of antihypertensive agents — calcium-channel blockers, angiotensin-converting–enzyme inhibitors, angiotensin II type 1–receptor antagonists, alpha blockers, and direct vasodilators — the practitioner should consider selecting the agent with the longest half-life in each class. The antihypertensive effect of some drugs, such as the thiazide diuretics, is not related to plasma concentrations or drug half-life, and for these drugs, timing doses and short lapses in adherence are probably clinically unimportant. The most forgiving medications, such as the thiazides or modified formulations such as the transdermal clonidine patch, are more likely than less forgiving drugs to achieve an acceptable therapeutic outcome if they are otherwise tolerated.

Another strategy used by Burnier and colleagues[92] in a study of a highly selected group of patients with refractory hypertension was to monitor adherence objectively with the use of microelectronic monitors. In more than 30 percent of patients initially identified as having refractory hypertension, blood pressure became controlled merely as a result of monitoring, and an additional 20 percent of patients were identified as having lapsed adherence. Further control of blood pressure was achieved in a subgroup of subjects with poor adherence who agreed to continued monitoring and adjustment of their medications.[92]

PSYCHIATRIC ILLNESS

Patients with psychiatric illness typically have great difficulty following a medication regimen, but they also have the greatest potential for benefiting from adherence.[80,93] Half of patients with major depression for whom antidepressants are prescribed will not be taking the drugs three months after the initiation of therapy.[94] Rates of adherence among patients with schizophrenia are between 50 and 60 percent, and among those with bipolar affective disorder the rates are as low as 35 percent.[56,57,95] In a systematic review by Cramer and Rosenheck, among patients with physical disorders, the mean rate of medication adherence was 76 percent (range, 40 to 90 percent), whereas among those with psychoses the mean rate was 58 percent (range, 24 to 90 percent) and among those with depression the mean rate was 65 percent (range, 58 to 90 percent).[96]

A number of interventions to improve adherence to medication regimens among patients with psychiatric illnesses have been tried. Successful approaches include a combination of educational interventions (involving both patient and family), cognitive–supportive interventions, and the periodic use of reinforcement techniques.[73,89,97,98] Educational approaches appear to be most effective when they are combined with behavioral techniques and supportive services.[80] Reinforcements include a wide variety of techniques, such as monetary rewards or vouchers, frequent contact with the patient, and other types of personalized reminders.[79,99-101] Unfortunately, these interventions require trained personnel and repeated sessions if increased adherence is to be maintained; without these resources, adherence falls with time.

New antidepressant drugs and antipsychotic agents generally have fewer side effects than do older medications, and, consequently, their use results in reduced rates of discontinuation.[57,102-105] New agents may be preferred to older agents for a variety of reasons, but factors such as cost and effi-

cacy may be more important for some patients in achieving optimal adherence. Depot neuroleptic agents are often the treatment of choice for patients with schizophrenia who are not adhering to a regimen of oral agents.[106,107] The recent development of atypical depot neuroleptic drugs has the potential to improve adherence, since these agents combine the better efficacy and tolerability of the atypical agents with the reliability of the depot formulation.[106,108]

ILLNESS IN PEDIATRIC PATIENTS

Anyone who has seen a child with clenched teeth and a caregiver struggling desperately to administer the next dose of a medication understands the challenge of adherence to a medication regimen in the treatment of children. Achieving full adherence in pediatric patients requires not only the child's cooperation but also a devoted, persistent, and adherent parent or caregiver. Adolescent patients create even more challenges, given the unique developmental, psychosocial, and lifestyle issues implicit in adolescence.[109-112] Although the factors that contribute to poor adherence in children and adolescents are similar to those affecting adults, an added dimension of the situation is the involvement of patients' families.[113-115] Rates of adherence to medication regimens among children with chronic diseases are similar to those among adults with chronic diseases, averaging about 50 percent, with decrements in adherence occurring with time.[116-118]

Many interventions to improve adherence have been tried in pediatric patients but have had limited success. Most of the successful interventions in patients with chronic childhood illnesses have used behavioral interventions or a combination of behavioral and other interventions. The most common intervention is the token reinforcement system,[119-122] which involves motivating adherence by providing tokens or other rewards for taking medications successfully. The tokens can be used to obtain privileges, access to certain activities, or other rewards. Behavioral strategies often require resources and trained staff, yet simple reinforcement systems are practical for use by parents or other caregivers. The use of a more palatable medication than was initially prescribed has met with some success in improving adherence,[123,124] and the involvement of family members, schools, and other social supports are valuable strategies for maximizing children's ability to adhere to medication regimens.[113,115]

CONCLUSIONS

Poor adherence to medication regimens is common, contributing to substantial worsening of disease, death, and increased health care costs. Practitioners should always look for poor adherence and can enhance adherence by emphasizing the value of a patient's regimen, making the regimen simple, and customizing the regimen to the patient's lifestyle. Asking patients nonjudgmentally about medication-taking behavior is a practical strategy for identifying poor adherence. A collaborative approach to care augments adherence. Patients who have difficulty maintaining adequate adherence need more intensive strategies than do patients who have less difficulty with adherence, a more forgiving medication regimen, or both. Innovative methods of managing chronic diseases have had some success in improving adherence when a regimen has been difficult to follow.[99,125-127] New technologies such as reminders through cell phones and personal digital assistants and pillboxes with paging systems may be needed to help patients who have the most difficulty meeting the goals of a regimen.

Dr. Blaschke reports having received consulting fees from Jazz Pharmaceuticals, Portola Pharmaceuticals, Gilead Sciences, Aerogen, Depomed, Kai Pharmaceuticals, and Pharsight, and reports having shares in Johnson & Johnson and Procter & Gamble.

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STATE BOARD OF PHARMACY
PUBLIC EDUCATION AND COMMUNICATION COMMITTEE
MINUTES

DATE:	April 1, 2014
LOCATION:	Department of Consumer Affairs 1747 N Market Boulevard, 1st Floor Hearing Room Sacramento, CA 95834
COMMITTEE MEMBERS PRESENT:	Ryan Brooks, Chair Lavanza Butler, R.Ph. Ramon Castellblanch, PhD Albert Wong, PharmD Allen Schaad, R.Ph.
COMMITTEE MEMBERS NOT PRESENT:	Shirley Wheat
STAFF PRESENT:	Virginia Herold, Executive Officer Michael Santiago, DCA Staff Counsel Carolyn Klein, Manager II Joyia Emard, Public Information Officer Laura Hendricks, Administrative Analyst

Call to order

Chair Ryan Brooks called the meeting to order at 10:05 a.m.

Chair Brooks conducted a roll call. Committee members Lavanza Butler and Allen Schaad were present.

Dr. Albert Wong arrived at 10:09 a.m. and Dr. Ramon Castellblanch arrived at 10:13 a.m.

1. **FOR INFORMATION: Presentation by Mpack Systems on New Product Design for Pharmacy Prescription Containers**

Mpack Systems presented information on its new design for pharmacy prescription packaging. Presenting were Bill Negrini, president; Bill Hartig, RPh, president of PreScripts and consulting pharmacist; Richard Lee, vice president; all from Mpack Systems.

The Mpack prescription containers are rectangular in shape and fairly flat, leaving a lot of room for information on labels on both sides of the package, presenters said up to 80 percent more room than standard packaging labels. The Mpack cap label makes the containers easy to identify and organize. The containers also mail well and do not open during shipping.

Mpack has a system that prepackages the prescription and preprints the labels and warnings. The system eliminates the risk of the wrong drug being dispensed.

The Mpack system has a bar code and fully supports tracking and tracing. The system outputs a finished prescription in a minute and eliminates will-call.

Mpacks can ship for under $1 and the containers have right angles so they stack well for better storage. They also have blister packaging.

Presenters said the military likes the Mpacks because they can be put in uniform pockets, otherwise the pills have to be removed from their round bottles and put into plastic bags to carry.

Chair Brooks asked why prescription pill bottles are round. Presenters said that it's because "they always have been" and because the bottles are produced in volume and therefore cost less. He said as the Mpack system increases in use, their packages will be produced in larger volume and will become less costly.

Dr. Wong asked about automation. Presenters said their automated system reduces the number of pharmacy employees needed in the pharmacy because of greater use of automation.

Chair Brooks called the system innovative and said he likes the package shape. However, he added that the board is unable to endorse products.

2. **FOR DISCUSSION AND POSSIBLE ACTION: Resumption of the Committee's Assessment of California's Patient-Centered Labeling Requirements**

The committee was tasked by the board to discuss the following items and other elements relating to patient-centered labels, and bring recommendations back to the board.

- Should Section 1707.5(a)(1)(B) Require Listing of the Manufacturer's Name in the Patient-Centered Clustered Area of the Label When a Generic Drug Is Dispensed?

- Should Changes Be Made to 1707.5(a)(1)(B) regarding the Name of the Drug and Strength of the Drug to Improve Patient Understanding of the Medication?

- When a Generic Drug Is Dispensed, Should the Generic Equivalent Drug Dispensed to a Patient Be Referenced Back to the Brand Name, e.g., Phrased as "Generic for (brand name)_____"?

- Should Purpose or Condition Be a General Requirement for Labels?

- Should the Existing Requirements for "Added Emphasis" in the Patient-Centered Area of the Prescription Label Be Modified?

- Translated Directions for Use Are Available on the Board's Website. Should the Board Require Use of Them to Aid Patients with Limited English Proficiency?

- Should the Board Consider Technology Standards to Enhance the Patient-Centered Requirements?

Chair Brooks asked that no action be taken on any of these items because in the last year and a half the board has worked on the design of the label and has been waiting for feedback to come in before making more changes.

Dr. Castellblanch wanted to know when the committee could do something about these matters because he said there may be some urgency on these issues. Chair Brooks agreed, but said he didn't know what they could do until they got the results from the first go-around. He said the board is going through a process where they are constantly changing the label, so they need feedback from the public and board investigators in the field.

He asked committee members to identify items from the agenda item they wanted to discuss.

Dr. Castellblanch said they'd been discussing translations on the labels for five years and it might be time to do something. He said he would like to have a hearing and testimony from authorities who have done research on the issue of translations on labels. He also wanted to hear from experts.

Executive Officer Virginia Herold stated that surveys on this subject have been shared with the committee several times. She suggested they might want to hear from Mike Wolfe, who is a national expert in label design and conducted research on the translated label directions that are posted on the board website. She said surveys conducted by the board indicate very few people are using those translations.

Dr. Castellblanch asked if the translations were mandated, then would that improve service and outcomes in regards to mortality.

Chair Brooks questioned whether translated labels would affect first responders who may not be able to read translated labels.

Ms. Herold said many of the issues have already been discussed, such as whether English must also be on a translated label and whether only the directions for use should be translated or other label elements as well. She said one of the problems is that translated directions of use require that the directions be standardized in English first. She said the board has standardized usage instructions in English that appear in the regulation's text and are translated in other languages. They are available on the board's website and aren't being used. She said NCPDP has issued a white paper which supports the use of the standardized directions. She added she has presented this to the Medical Board.

Dr. Castellblanch said he could make some suggestions on who could speak at the next meeting. Chair Brooks asked to hear from first responders and pharmacists on translations.

Dr. Wong asked if there is a demand for translations from the public. He wants to know who is responsible if the language translation on a bottle isn't correct. He said he doesn't understand Russian, but if he put Russian on a prescription label then he would be responsible for its accuracy. He said if it becomes mandatory, then he doesn't have the ability to ensure the translation is correct.

Ms. Herold said the board did conduct a survey for a four month period and found that 70 percent of the pharmacies in the state already do provide translations on the label.

Chair Brooks said it might be a solution in search of a problem and he has not heard that there is a demand that would require the board to mandate this service, but there still may be a need. He asked for four or five speakers to present to the full board because the information could have a greater impact.

Ms. Herold said the next board meeting is in April and is when legislation is discussed. Another meeting will be held in July. She said she could bring in the same groups that helped the board before – the NAPB, the Institute of Medicine and researchers that were instrumental in the early stages of the patient-centered label discussions.

Chair Brooks said including "generic for" is another topic that has been discussed, but he did not feel the committee was ready to act on it. He said he wants this item to go back to the full board. He said there is another question as to how long to include a brand name once the patent has expired.

Ms. Herold said she included possible draft language for this in the meeting materials. The draft requires listing the brand name with the generic name for five years after the brand

name drug has gone off patent, but she said that number could be changed. She said that the language would give the pharmacist the professional discretion as to whether to put "generic for" on a container when the generic name essentially becomes the most common name of the drug.

Chair Brooks reiterated that he didn't know if there was an actual need for this or if it was again a solution looking for a problem. Dr. Castellblanch agreed that he did not know what problem they'd be solving.

Ms. Herold stated that at the last meeting it was discussed that people sometimes get a drug where only the name brand appears on the container. When they get a refill they get the generic drug with only the generic name on the label. This can cause confusion. She said there are documented cases where someone gets the new generic drug and takes both drugs because they don't recognize they're the same drug.

Chair Brooks said if the purpose was on the label they would know.

Ms. Herold said purpose on the label is another outstanding issue. She said currently the prescriber starts the process by putting it on the prescription, but it is not required.

Chair Brooks wanted to know if putting purpose on the label would be a HIPAA violation. Legal counsel Michael Santiago said there would be no HIPAA implications or violations because even if the condition or purpose for which the drug was prescribed was on the label and even if it went into more detail then just "for infection" and included the condition or actual diagnosis, so long as the drug was not dispensed to someone who was not authorized – either not the patient or their agent – then there would be no HIPAA violation.

Chair Brooks said if the purpose was on the label then there would be no need for "generic for."

Allen Schaad said the problem is that for a medical condition like blood pressure it is very common for people to need three medications. A prescriber will often prescribe multiple medications for multiple conditions.

Ms. Butler said she's always thought "generic for" should be on the label because if a patient has three medications at home for high blood pressure and they get a generic for one of those, then they overdose. She said "generic for" should be on the label.

Dr. Castellblanch said he now remembers prior discussions that people didn't know the generic and brand were the same drug and this could be a problem. He said two things could happen – they could take double the amount or they could take drugs that would counteract each other.

Ms. Herold said regarding national authorities, the USP states the drug names should be spelled out fully and the generic name spelled out fully with no abbreviations. The model guidelines of the National Association of Boards of Pharmacy do recommend that "generic for" be added when a generic is used.

Chair Brooks asked whether they had determined if that correlates to a reduction of overdoses or misuse. He said he wanted empirical data. Ms. Herold said she was not aware of any.

Dr. Wong asked if he puts Chinese translations of the indication on his patients' labels at their request, then is it a violation of any laws. Ms. Herold said as long as he is meeting all the requirements of what must be on the label, putting purpose translations on the label is permitted because it is an addition, such as adding a photo of the pill on the label or the phone number of the poison control center.

Chair Brooks said the more that is put on the label, the less opportunity a pharmacist has to add information that may be useful to the patient.

Dr. Wong said some of the generic names are so long pharmacists can't get all of it on the label.

Chair Brooks said he'd like to give the process more time to play itself out.

Dr. Castellblanch said staff should conduct research to find evidence to support adding "generic for."

Ms. Herold added a point of information and said the board approved 12-point font at the October meeting as the minimum font size for the patient-centered area of the label. The documents are now at the Office of Administrative Law to be released for the 45-day initial public comment.

Chair Brooks asked for public comment.

Sarah de Guia, from the California Pan-Ethnic Health Network, said it was very important to have a full board hearing on having translations on labels. She said some stakeholders or some of the community groups who worked on these issues should be included.

Ms. De Guia said there are 6-7 million Californians who don't speak English proficiently, which means they can't read their prescription label. She said they rely on family and friends to translate for them. She does not believe that's a good quality standard. She said she's heard of people having problems with their medications because of poor translations and there are people who have to travel far distances to get their translations because one pharmacy will provide it, but another won't. She said there isn't a lot of empirical data available because it is not an area that researchers tend to look at. She said her organization

does have a couple of studies that show that patients' ability to understand their label increases dramatically when it's in their language.

Jonathon Tran, with the Southeast Asia Resource Action Center, said California has the largest resettlement of relocated Southeast Asians in the world. He said there are more than 900,000 here. He said the availability of translations of labels is sporadic and the quality is sporadic and will remain so if the industry is relied upon to regulate itself.

Dr. Castellblanch said he checked in Berkeley and found that translations are sporadic.

3. **FOR INFORMATION: Availability of Options for Prescription Labels for Visually Impaired Patients**

   The board was recently made aware of a new technology to aid visually impaired patients in taking their medications. The information was provided in the meeting materials.

   Ms. Herold said this is another example of issues that some patients have when reading prescription labels.

4. **FOR INFORMATION: Proposal by the Federal Food and Drug Administration on "Supplemental Applications Proposing Labeling Changes for Approved Drugs and Biological Products"**

   The Food and Drug Administration late last year proposed to amend its regulations to revise procedures for generic drug manufacturers who hold a generic drug approval to change the product labeling to reflect certain types of newly acquired information before the FDA's actual review of the labeling change. The proposed rule would direct generic drug manufacturers to distribute revised product labeling that differs in certain respects from the labeling of its reference listed drug previously submitted to the FDA.

   The proposed rule would direct generic manufacturers to update product labeling promptly to reflect certain types of newly acquired information related to drug safety, essentially if information about the brand name counterpart becomes available. The GPhA, which represents the generic industry, does not support this proposal and said that any negative effects associated with a brand name drug should be on the label of the brand name product, not to the generic version their members manufacture.

   Chair Brooks said the board has not taken a position on this item.

   Ms. Herold said she has been asked twice in the past month what the board's position is on this – by CalPERS and the Governor's Office. She said in the past when there's a problem with a drug, it is the brand drug makers' responsibility to inform the public, not the generic drug maker. She said there may be some developing policy on this in the future.

There was no public comment.

5. **FOR INFORMATION: <u>The National Association of Boards of Pharmacy 's Launch of ".pharmacy" to Identify Legitimate Internet Web Sites for Prescription Drugs</u>**

The National Association of Boards of Pharmacy recently received approval from the ICANN Board (which approves the use of top level domains – e.g., controlling those who can use suffixes such as ".com," ".org" or other addresses for web sites) to approve those entities who can use the ".pharmacy" domain. This will enable the NABP to approve who can use .pharmacy as a suffix, thereby enabling them to approve "legitimate" Internet businesses (those who comply with the NABP's standards). Currently 97 percent of the drug outlets operating drug-selling websites are illegitimate according to the NABP.

The meeting materials contained the recent report on ".pharmacy" by the National Association of Boards of Pharmacy.

Dr. Castellblanch asked if this information could be included on the board's website.

Ms. Herold updated the committee on where The National Association of Boards of Pharmacy is in the process. She said ".pharmacy" will legitimize online pharmacies that operate legally and help distinguish those that don't.

6. **FOR INFORMATION: <u>Update on *The Script*</u>**

The Script is scheduled to go into design in April. This edition focuses on new laws for 2014 and disciplinary actions. Staff intends to resume at least bi-annual production of this newsletter from this point forward.

7. **FOR INFORMATION: <u>Review of the Board's Public Service Announcement and Video Developed on Prescription Drug Abuse</u>**

The board has developed public service announcements on prescription drug abuse for both radio and television to inform the public about the prescription drug abuse epidemic and give simple steps that can be taken in the home to keep prescription medications out of the hands of teens. There was a print format and a video format produced.

The committee viewed the 60-second and 30-second prescription drug abuse prevention public service announcement videos.

Ms. Herold credited Public Information Officer Joyia Emard with producing the videos and the PSAs' script.

Chair Brooks said he liked the video very much and said the board needs to do more on this issue. He said prescription drug abuse is an epidemic that is spreading like wildfire through the state's high schools and junior highs.

Dr. Castellblanch asked how the videos would be distributed. Ms. Herold said materials were in the process of being approved that would go on the board's website. She said she'd appreciate board members' assistance in distributing the videos. She also said the videos would be sent to the media.

Dr. Castellblanch said the next Prescription Drug Abuse subcommittee meets in May in San Diego. He said middle-aged people, mostly working people, die from fatal overdoses.

8. **FOR INFORMATION: Update on the Board's Consumer Education Materials on Counterfeit Drugs and a Newsletter Article for the Medical Board's Newsletter**

A new online brochure on counterfeit drugs is in the design phase and is expected to be completed in April.

An article on patient centered prescription labels was written to appear in the upcoming Medical Board newsletter. It was included in the meeting materials.

9. **FOR INFORMATION: Update on Media Activity**

The following is a report distributed at the meeting on recent media contacts handled by the office.

DEA investigating CVS

- March 10: David Lazarus, L.A. Times, interviewed Virginia Herold
- March 11: KCRA TV interviewed Virginia Herold
- March 11: FOX 40 TV interviewed Virginia Herold
- March 11: CNN interviewed Virginia Herold
- March 12: Andrew Westrope, Rocklin Placer Herald/Press Tribune, interviewed Virginia Herold

Pharmacist facing suspension/revocation running for council

- March 19: Luke Money, Santa Clarita Daily Signal, interviewed Joyia Emard
- March 19: Perry Smith, KHTS AM Radio, interviewed Joyia Emard

Information request

- March 28: Vik Jolly, Orange County Register

Chair Brooks said the staff has been very busy with the media. He said he wishes the media activity could be more proactive instead of reactive.

10. FOR INFORMATION: Public Outreach Activities Conducted by the Board

Ms. Herold reviewed public outreach conducted by the board.

Ms. Butler said she and Dr. Wong attended the DEA program on prescription drug abuse and stated it was a very informative program.

11. Public Comment for Items Not on the Agenda, Matters for Future Meetings

Dr. Castellblanch said the board's "Ask you pharmacist" posters have too much information on them and the type is too small to read. Chair Brooks said he agreed, but the items on the poster were required by law.

Dr. Castellblanch said patient rights posters are helpful, but he doesn't think the current poster is effective. He would like to find a better way to do it. Chair Brooks agreed. He said there is too much information on it.

Ms. Herold said the video version of the poster breaks the information down into smaller items.

Chair Brooks said he would like pharmacy schools to educate students about prescription drug abuse.

Adjournment: 11:36 a.m.

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Senate, House Reach Agreement On National Traceability Law

By *dvaczek*
Created *09/30/2013 - 11:51am*
By dvaczek
Published: September 30th, 2013 Industry News [1] Track and Trace [2]
Share [3]

The prospect of federal track and trace legislation has leapt forward with the passage on Saturday by the House of Representatives of a bill negotiated between House and Senate committee leaders last week.

Approved by voice vote in the House, H.R. 3204, the Drug Quality and Security Act, creates a federal uniform traceability requirement, combined with an overhaul of regulation of pharmaceutical compounding.

H.R. 3204 replaces H.R. 1919 in which the House Energy and Commerce Committee proposed its initial version of track and trace requirements. H.R. 3204 conforms in key provisions with the Senate's Health, Education, Labor, & Pensions (HELP) committee bill on traceability, S. 959.

Requirements include that manufacturers affix the standard numerical identifier (SNI) to unit level packaging four years after enactment. Supply chain deployment of interoperable electronic tracing of product at the package level must be in place after ten years.

"Now that the House of Representatives has passed legislation to strengthen the security of the pharmaceutical supply chain, only the Senate's imminent vote stands in the way of establishing a federal uniform traceability framework for prescription medicines," said HDMA presdient and CEO John Gray in a press release.

"For nearly a decade, HDMA has worked to replace the 50-state patchwork of rules and regulations with a federal solution that ensures regulatory clarity and consistency, helps prevent counterfeits, discourages gray market activities, and enhances the safety and securtity of the pharmaceutical supply chain for all Americans," Gray said.

H.R. 3204 reflects a bipartisan, bicameral effort on the issues of traceability and compounding, the HELP committee said in a press release announcing the compromise agreement last week.

"This legislation will improve the safety of compounded drugs by clarifying the oversight responsibilities of the FDA over large volume compounders and by holding facilities to high quality standards. The bill also calls for an unprecedented tracing system that will track prescription drugs from manufacturing to distribution. I commend the bipartisan spirit that brought this compromise proposal together," said committee chairman Tom Harkin (D-IA).

"We have developed a uniform system for tracking and tracing drugs to prevent counterfeits from entering the supply chain that maintains the strengths of the groundbreaking California system," said House Energy and Commerce committee ranking member Henry A. Waxman (D-CA).

A provision in H.R. 1919 that called for electronic labeling of the professional package insert—that was strongly opposed by the specialty printing industry--is eliminated in H.R. 3204.

In a press release after the House vote on Saturday, House Energy and Commerce committee chairman Fred Upton (R-MI) commented: "I am proud to say that this piece of legislation is a product of true bipartisan and bicameral work. The Senate and the House, Republicans and Democrats, came together to produce a bill that will protect American patients by ensuring they receive safe drugs."

Industry News Track and Trace

//ord=Math.random(); //ord=ord*10000000000000000000; document.write(''); if (navigator.userAgent.indexOf("Gecko")==-1) { document.write('<\/SCR' + 'IPT>'); } document.write('');

Source URL: http://www.pmpnews.com/news/senate-house-reach-agreement-national-traceability-law

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Search State Health Facts Data

Total Number of Retail Prescription Drugs Filled at Pharmacies

change indicator (http://kff.org/state-category/health-costs-budgets/prescription-drugs/)

TABLE | MAP | CHOOSE A CATEGORY

Download Raw Data Notes

Timeframe: 2011 **Data View:** Number **Locations:** United States, States

Total Number of Retail Prescription Drugs Filled at Pharmacies

View Table in New Window

Location	Total Retail Rx Drugs
United States	**3,764,698,318**
Alabama	79,463,224
Alaska	5,437,436
Arizona	73,572,415
Arkansas	40,090,590
California	393,885,063
Colorado	49,808,764
Connecticut	39,485,912
Delaware	13,544,778
District of Columbia	5,029,199
Florida	235,306,094
Georgia	116,901,124
Hawaii	16,628,173
Idaho	19,437,116
Illinois	154,308,223
Indiana	72,975,200
Iowa	48,919,836
Kansas	34,376,783
Kentucky	84,532,021
Louisiana	64,693,557
Maine	20,578,961
Maryland	59,787,621
Massachusetts	71,601,065
Michigan	120,776,849
Minnesota	62,912,797
Mississippi	48,351,062
Missouri	76,452,696
Montana	11,563,882
Nebraska	25,012,562

Nevada	28,617,506
New Hampshire	17,796,720
New Jersey	108,356,824
New Mexico	20,695,923
New York	253,796,344
North Carolina	94,849,763
North Dakota	9,237,836
Ohio	170,153,713
Oklahoma	42,526,044
Oregon	51,465,844
Pennsylvania	176,126,557
Rhode Island	12,235,091
South Carolina	53,849,819
South Dakota	10,434,677
Tennessee	112,838,202
Texas	234,485,214
Utah	27,729,204
Vermont	10,904,792
Virginia	89,410,870
Washington	77,863,323
West Virginia	35,842,210
Wisconsin	73,566,067
Wyoming	6,482,777

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Notes

Data shown here are for calendar year 2011 and include the number of prescription drugs filled at retail pharmacies only. Data are based on IMS's Vector One® database which collects data from a panel of retail pharmacies, third party payers, and data providers. Retail pharmacies include independent pharmacies, chain pharmacies, food stores, and mass merchandisers found in 814 defined regional zones. These totals include prescriptions filled at pharmacies only and a small portion of over-the-counter medications and repackagers and exclude those filled by mail order.

Sources

SDI Health, L.L.C.: Special Data Request, 2012.

Definitions

Prescription Drugs or Rx Drugs: All products filled by retail pharmacies, including new prescriptions and refills of both brand name and generic drugs.

Repackaged Medication: A drug product which has been transferred from the original manufacturers market container or bulk dosage container into a different container for distribution.

› **Updated | May 01, 2014**

State Marketplace Statistics (http://kff.org/health-reform/state-indicator/state-marketplace-statistics/)

› **Updated | May 02, 2014**

Marketplace Enrollment and Premium Subsidies

(http://kff.org/health-reform/state-indicator/marketplace-enrollment-and-premium-subsidies-2/)

› **Updated | May 02, 2014**

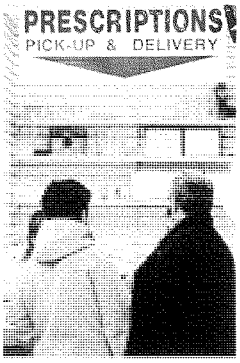
Marketplace Enrollees Eligible for Financial Assistance as a Share of the Subsidy-Eligible Population (http://kff.org/health-reform/state-indicator/marketplace-enrollees-eligible-for-financial-assistance-as-a-share-of-the-subsidy-eligible-population/)

Mail-Order Improves Medication Compliance | Psych Central News

Rick Nauert PhD

Mail-Order Improves Medication Compliance

By *Senior News Editor*
Reviewed by John M. Grohol, Psy.D. on January 19, 2010



A new study suggests purchasing medicine by mail may encourage patients to stick to their doctor-prescribed medication regimen.

In a first-of-its-kind study, researchers from UCLA and Kaiser Permanente's Division of Research in Oakland, Calif., found that patients with chronic disorders were more likely to take the medications as prescribed by their physicians than patients who obtained medications from a local pharmacy.

Researchers studied individuals with diagnoses including diabetes, high blood pressure and high cholesterol and believe the ease by which the medications were acquired is a primary reason for those patients' compliance level.

The study findings appear in the online edition of the *American Journal of Managed Care*.

"The field of medication adherence research typically focuses on patient factors for poor adherence, leading to a 'blame the patient' approach for non-adherence," said Dr. O. Kenrik Duru, the study's lead researcher and an assistant professor in the division of general internal medicine and health services research at UCLA.

"Our work helps to place this issue in a larger perspective," Duru said. "Our findings indicate that mail-order pharmacies streamline the medication-acquisition process, which is associated with better medication adherence."

For the 12-month study, researchers analyzed medication refill data from 2006 and 2007 for 13,922 Kaiser Permanente members in Northern California. They defined "good adherence" as having medication available and on-hand at least 80 percent of the time.

The researchers found that 84.7 percent of patients who received their medications by mail at least two-thirds of the time stuck to their physician-prescribed regimen, compared with 76.9 percent of those who picked up their medications at traditional "brick-and-mortar" Kaiser Permanente pharmacies.

"The results were consistent for all three classes of medication, including medications to control diabetes, high blood pressure and high cholesterol," said co-investigator Julie A. Schmittdiel, Ph.D., a research scientist with the Kaiser Permanente research division.

Other findings include:

- Before adjusting for other variables, white patients were more likely than Hispanics to obtain medications by mail (61.0 percent vs. 37.1 percent) and to be in the highest socioeconomic status quartile (27.5 percent vs. 17.8 percent).
- Mail-order pharmacy users were more likely than local pharmacy users to have a financial incentive to fill their prescriptions (49.6 percent vs. 23.0 percent) and to live a greater distance from a local pharmacy (8.0 miles vs. 6.7 miles). An example of a financial incentive is receiving a three-month supply of medication for the cost of a two-month supply.
- After adjusting for other variables, whites were more likely to use mail-order pharmacies (24.1 percent) than were Asian/Pacific Islanders (8.4 percent), Hispanics (5.2 percent), African Americans (4.0 percent) and individuals of mixed race (8.0 percent).

While other research has examined the association between medication costs and mail-order and local pharmacies, this is the first study to look at the relationship between pharmacy type and medication adherence.

Furthermore, it controls for differences in out-of-pocket costs and medication supply (by number of days) between mail-order and local pharmacy users, something other datasets have not included.

"In other words, our study is able to isolate the use of mail-order pharmacies specifically, without the results being affected by differences in cost or in the number of pills provided with each dispensing," Duru said.

The study does have some limitations. For example, the findings need to be confirmed by a randomized controlled trial.

Still, the research suggests that increased mail-order use to obtain medications could improve patients' adherence.

Source: UCLA

APA Reference
Nauert, R. (2010). Mail-Order Improves Medication Compliance. *Psych Central*. Retrieved on May 19, 2014, from http://psychcentral.com/news/2010/01/19/mail-order-improves-medication-compliance/10826.html